ORDER NO. VRD8904M615

Service Manual

Portable Video Cassette Recorder

Panasonic S VHS VHS PAL 625 Hi-Fi

AG-7450-B -E -EP -EG

Operating Instructions
Electrical Adjustment Procedures
Mechanical Adjustment Procedures
Block Diagrams
Schematic Diagrams
Circuit Board Diagrams
Exploded Views
Replacement Parts List

SPECIFICATIONS

ITEM	SPECIFICATION
Power	Source: DC 10.5V ~ 16V Consumption: Approx. 16W (35W with Camera)
Video	Head: 4 rotary head, helical scanning system (NOR L/R: 49μm, SS L/R: 35μm)
	Luminance: FM azimuth recording
	Colour signal: Converted subcarrier phase shift recording
	Input Level: LUMINANCE (68-pin): 1.0Vp-p 1kΩ unbalanced CHROMINANCE (68-Pin): 0.3Vp-p 1kΩ unbalanced (Burst)
	Output Level: VIDEO (BNC): 1.0Vp-p 75Ω
	Signal-to-Noise Ratio (VHS): Color; 45dB
	Horizontal Resolution: (Colour/B/W); 400 lines (S-VHS) (Colour/B/W); 400 lines (VHS)
Audio	Head: Normal Audio/Control: 1 stationary head HD Audio: 2 rotary heads (36μm) Erase: 1 full track erase 1 Audio track erase
	Track: 2 tracks (Normal-stereo), 2 channels (Hi-Fi sound-stereo)
	Input Level: AUDIO (XLR): −6dBs, 600Ω balanced MIC (XLR): −60dBs, 600Ω balanced
Audio	Output Level: AUDIO MONITOR (phono): −8dBV, 600Ω unbalanced EARPHONES: −50dBV ~ −20dBV, 8Ω unbalanced
	Frequency Response: Normal: 50Hz ~ 10kHz Hi-Fi Sound: 20Hz ~ 20kHz
	Dynamic Range: Hi-Fi Sound: 80dBV
	Signal-to-Noise Ratio: 50dBV (Normal/NR ON)
Television System	CCIR Standard (625 lines, 50 fields) PAL colour Signal
Tape Speed	23.39mm/s
Tape Format	S VHS tape, VHS tape (Tape width 1/2″ (12.7mm))
Operating Condition	Temperature: 0℃ ~ 40℃ Humidity: 35% ~ 80%
Dimension	230 (W) × 213 (H) × 127 (D)mm
Weight	Approx. 3.4kg (without battery)
Optional Accessories	Video Camera (WV-F70) Battery Pack (AU-BP220) Time Code Generator/Reader (AG-F745) Battery Charger (AG-B745) AC Adaptor (AG-B640)
	VTR Adaptor (AG-S745) Battery Pack (AG-BP212)

Specifications are subject to change without notice.
Weight and dimensions shown are approximate.

Panasonic

Matsushita Electric Industrial Co., Ltd.
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INTRODUCTION

This Service Manual contains all the technical information which allows service personnel to understand and service this Panasonic portable video cassette recorder model AG-7450.
By the use of the S-VHS system, a sharp picture quality with high resolution is obtained, and advanced editing by easy operation is realized by the introduction of high reliability mechanisms.
Added to the basic VHS format, these features make the AG-7450 an ideal unit for EFP, ENG, business, education, sales and training applications.

Just slightly ahead of out time...Panasonic

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OPERATING INSTRUCTIONS

Features

Integrated with camera

The unit is connected to an optional video camera (WV-F70) to configure an integrated video/camera system.

The two units are connected by separate Y and C signals so that a high picture quality with crystal-clear colors is produced as a result.

Separate-type portable system

The unit is connected to an optional VTR adaptor (AG-S745) to configure a separate-type portable video system. Connection can also be made to a commercial video camera (with 14-pin connector).

Amorphous heads and high quality picture

Picture quality has been improved by the use of the S-VHS system and the amorphous heads. Resolution of over 400 lines and less noise are realized in the following conditions.

- FM carrier frequency: White peak; 7 MHz
  Sync tip; 5.4 MHz
- Installation of sub-emphasis circuit
- White clip level: 210%
- Use of S-VHS tape

Hi-Fi audio

Recordings with an excellent sound quality can be made using the 4-channel system composed of the normal audio (2-channel facility with a Dolby NR System and the Hi-Fi audio (2-channel) facility.

The input level of each channel can be adjusted independently on the display meter.

Time code generator/reader

An optional time code generator/reader (AG-F745) can be connected to the unit for recording under the VITC and LTC.

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* "Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

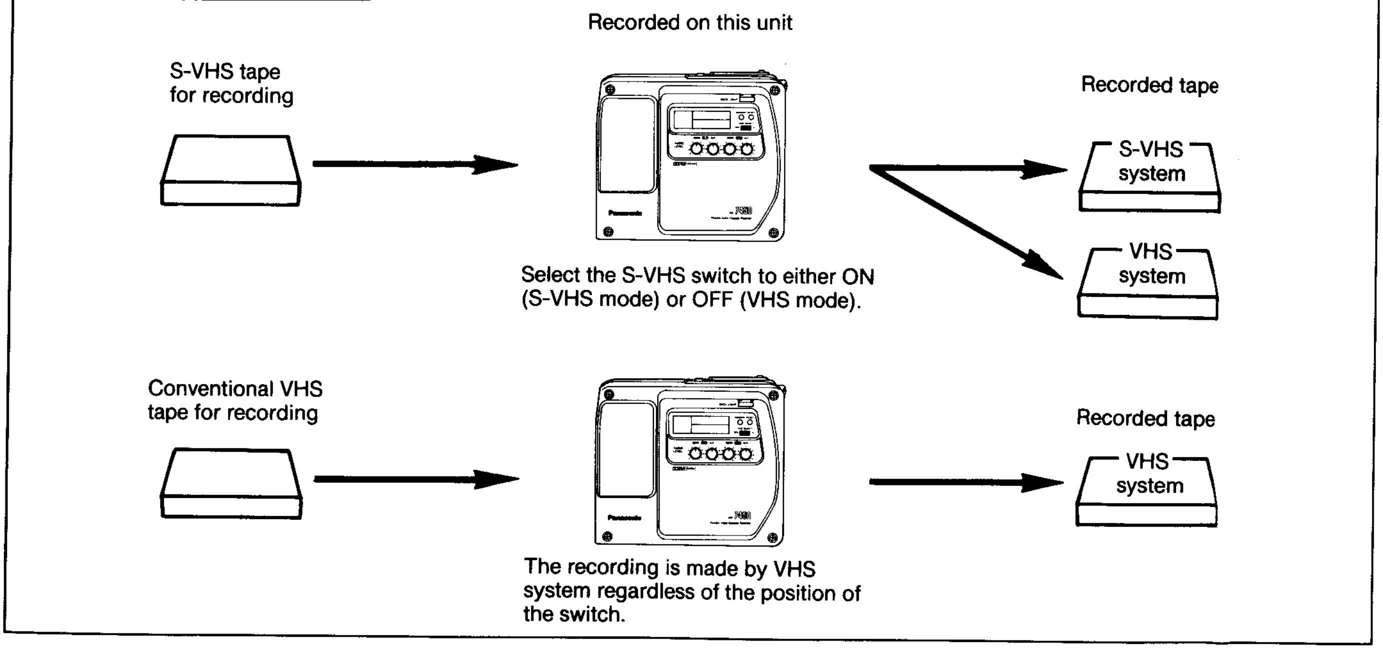
* Noise reduction manufactured under license from Dolby Laboratories Licensing corporation.

S-VHS System

The S-VHS System has been designed to meet the critical demands of the Video Information Age. This system incorporates technologies that provide high resolution and excellent picture quality with the VHS Video system, which is solidly established the world over for industrial and home use. The combination of this system with the newly developed S-VHS video cassette has enabled epoch-making progress in picture clarity and detail. The system produces a horizontal resolution of no less than 400 lines. You cannot only make recordings and playbacks of high quality pictures by using a video cassette with the S-VHS mark but also enjoy recording and playback as before with a cassette bearing the normal VHS mark.

Interchangeability of Video Recorders and Cassettes

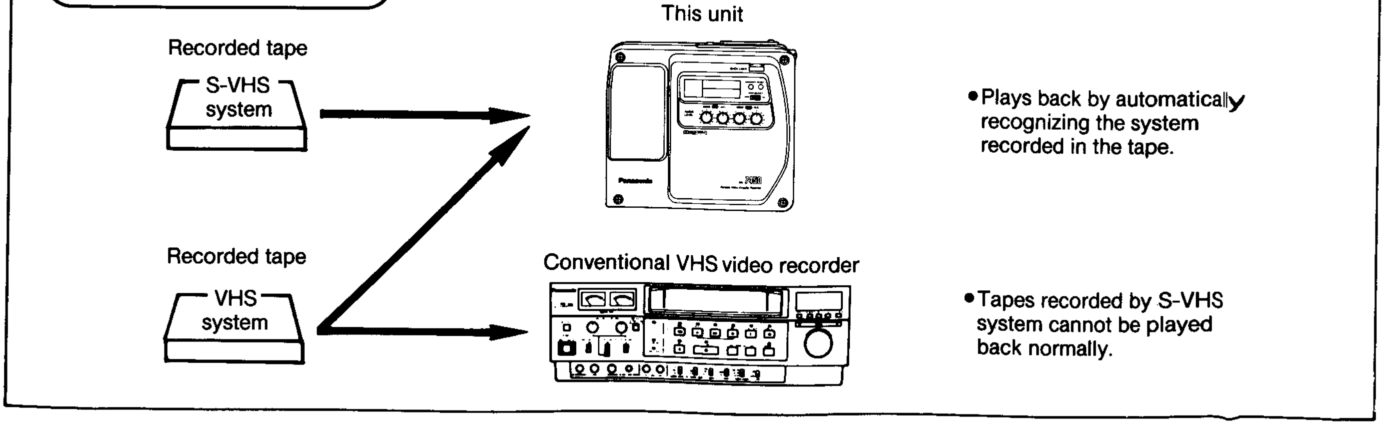
Recording


Recorded on this unit
S-VHS tape for recording
Recorded tape
S-VHS system
VHS system
Conventional VHS tape for recording
Recorded tape
VHS system

Select the S-VHS switch to either ON (S-VHS mode) or OFF (VHS mode).

The recording is made by VHS system regardless of the position of the switch.

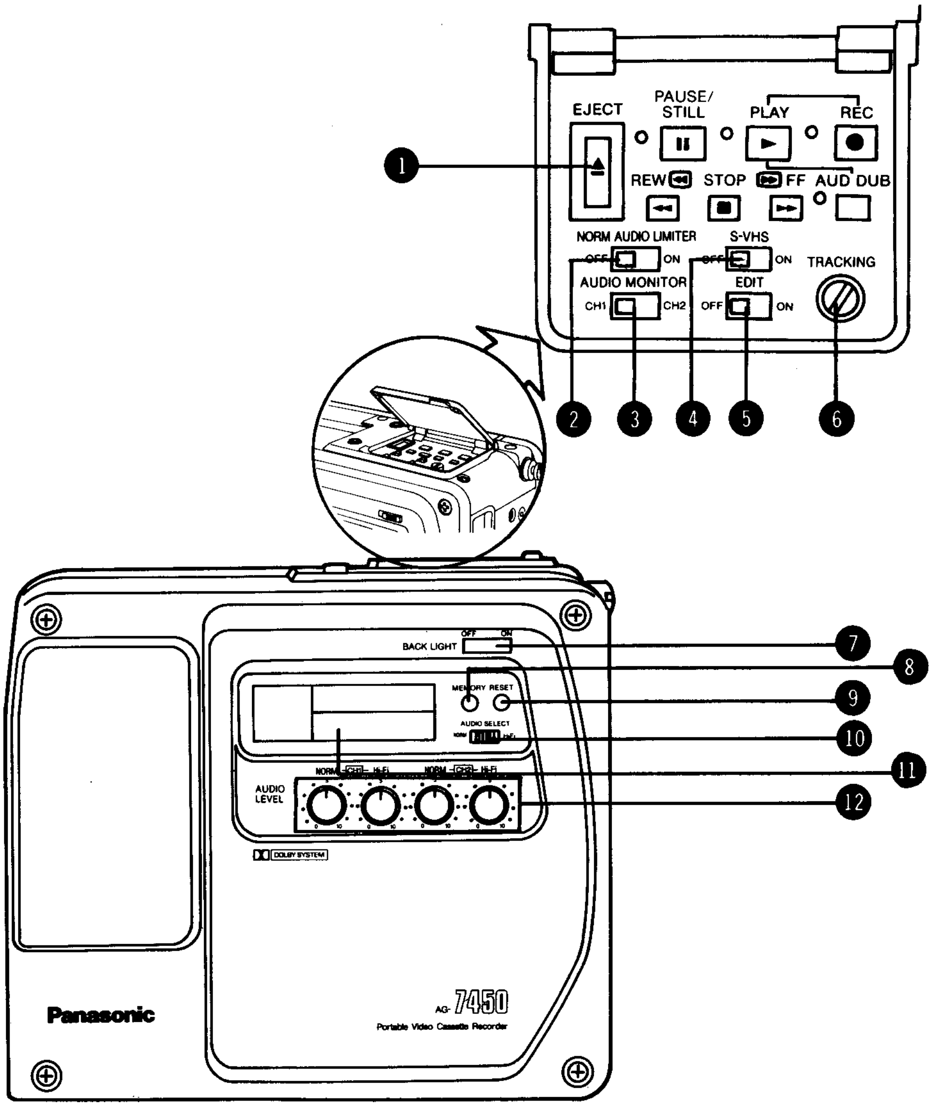
Playback


This unit
Recorded tape
S-VHS system
Recorded tape
VHS system
Conventional VHS video recorder

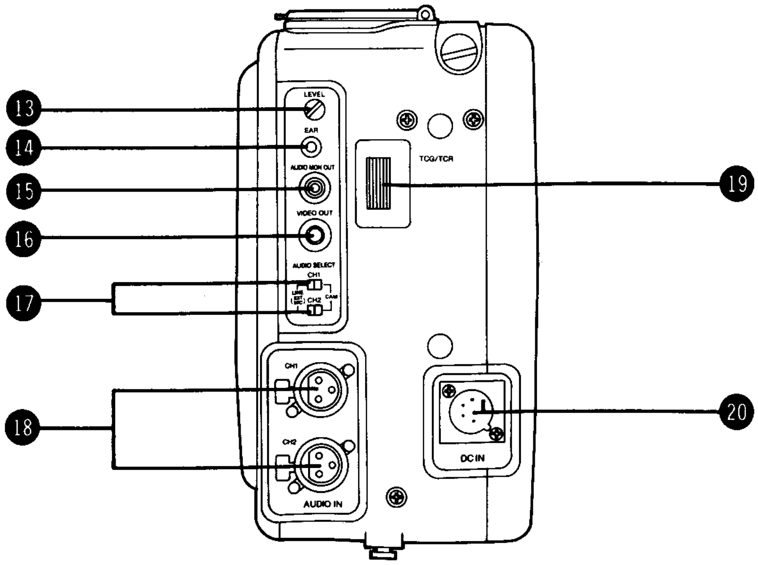
- Plays back by automatically recognizing the system recorded in the tape.
- Tapes recorded by S-VHS system cannot be played back normally.

Controls and their Functions

TOP


EJECT
PAUSE/ STILL
PLAY
REC
REW
STOP
FF
AUD DUB
NORM AUDIO LIMITER
OFF
ON
S-VHS
OFF
ON
TRACKING
AUDIO MONITOR
CH1
CH2
EDIT
OFF
ON
BACK LIGHT
OFF
ON
MEMORY
RESET
AUDIO SELECT
NORM
Hi-Fi
NORM
CH1
Hi-Fi
NORM
CH2
Hi-Fi
AUDIO LEVEL
0
10
0
10
0
10
0
10
DOLBY SYSTEM
Panasonic
AG-7450
Portable Video Cassette Recorder
1
2
3
4
5
6
7
8
9
10
11
12

SIDE


LEVEL
EAR
AUDIO MON OUT
VIDEO OUT
AUDIO SELECT
CH1
LINE
(EXT MIC)
CH2
CAM
CH1
CH2
AUDIO IN
TCG/TCR
DC IN
13
14
15
16
17
18
19
20

❶ **Operation Buttons**

Eject Button
By pressing this button, the cassette holder will rise, permitting the cassette to be removed or inserted.

Play Button/Lamp
When this button is pressed, playback will start, and the lamp will light.

Record Button/Lamp
By pressing this button together with the Play button, recording will start, and the lamp will light.
To stop recording, press the Stop button.

Pause/Still Button/Lamp
By pressing this button during playback, the tape will stop, a still picture will be reproduced. By pressing it once again or Play Button, normal playback will resume.
If you press this button while recording is taking place, the recording will be interrupted, and the tape will be rewound slightly, then this unit will go into the Pause mode. By pressing it once again, the tape will re-start, and recording will resume.

Rewind and Fast Forward Buttons
If you press either of these buttons while the unit is in the Stop mode, the unit will go into the E-E mode and rewind or fast forward will take place.
By pressing either of these buttons during playback, the playback picture will be reproduced at about 5 times normal speed in the reverse/forward direction.

Stop Button
By pressing this button, the tape will stop.

Audio Dubbing Button/Lamp
If you press this button during normal playback, normal audio dubbing will take place, and this lamp will light. To stop the audio dubbing, press the Stop button.

❷ **Normal Audio Limiter Switch (operates only for normal audio)**
This switch turns the limiter circuit ON. By turning it ON, the audio will be maintained at the correct level even if an excessive input is applied in the Normal Audio mode.
(See page 14 "Normal Audio Level".)

❸ **Audio Monitor Switch CH1/CH2**
Use this switch to select the appropriate setting when the AUDIO MONITOR OUT connectors and an earphone have been connected.

❹ **S-VHS Switch**
If you place this switch in the "ON" position, you can make a recording via the S-VHS system. In this case, use a special S-VHS tape.
If you place it in the "OFF" position, recording by the conventional VHS system is possible.
During playback, an automatic selecting circuit for both systems works, so there is no need to set this switch.

❺ **Edit ON/OFF Switch**
This switch turns ON and OFF the detail and Y NR/CNR circuits of the video recorder.

❻ **Tracking Control**
If noise occurs during playback, rotate this control to the left or right until a normal picture is obtained.

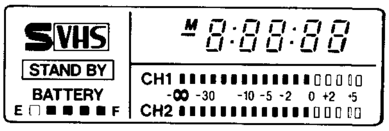
❼ **Back Light ON/OFF Switch**
This turns ON and OFF the light which illuminates the display.

❽ **Memory Button**
If this button is pressed, "M" will appear on the counter display, and the tape will automatically stop at (0000) during fast forward or rewind.

❾ **Reset Button**
If this button is pressed, the numbers on the counter display will be reset to 0000.

❿ **Audio Selector Switch**
This switch is used to select either Hi-Fi audio or Normal audio. You can use it for both recording and playback.

⓫ **Displays**



- **Standby Display**
  This flashes when the camera's POWER Switch is set to the standby position during the recording/pause mode.
- **Battery Display**
  This indicates how much charge is left in the battery.
- **Counter Display**
  This is a tape counter. It gives a display in hours, minutes and seconds.
- **S-VHS Display**
  This lights if you place the S-VHS switch in the "ON" position. In this case, recording is possible by using a special S-VHS tape. S-VHS display also lights when playing back a tape recorded by a S-VHS system.
- **Audio Level Meters for CH1 and CH2**
  These level meters are intended specifically for CH1 and CH2.
  Depending on the setting of the Audio Selector switch ❿, these meters indicate the recording and playback levels of Normal audio or Hi-Fi audio.
  (This is a peak level meter.)

⓬ **Audio Level Controls for CH1 and CH2**
These level controls permit manual control of the recording level for Hi-Fi audio or Normal audio.

⑬ **Earphone Level Control**
This control is used to vary the level of the output from the Earphone jack. (Adjust it using a small screwdriver.)

⑭ **Earphone Jack**
This jack is used for connecting an earphone.

⑮ **Audio Monitor Output Jack**
For connection to audio amplifier, or audio input of a TV monitor. This allows monitoring of CH1 or CH2 as selected by the Audio Monitor Switch.

⑯ **Video Output Connector**
This connector is for composite video output.

⑰ **Audio Input Selector Switches**
Selection is as follows, depending on the type of audio input that is used.

LINE: When recording a signal by an external (EXTMIC) microphone.

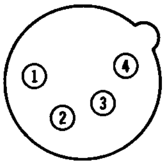
CAM: When recording a signal from the camera's built-in microphone.

Note:
The selection between LINE and External Microphone is available by the internal switch. For details, consult your authorized local dealer.

⑱ **Audio Input Connectors CH1 and CH2**
Used to connect the external microphone or line input signal to be recorded.
Even if only CH1 signals are supplied, sound can still be recorded onto CH2 using the internal switch.
The internal switch can also be set for 2-line input.
For details, consult your authorized local dealer.

⑲ **TCG Interface Connector**
This is used for connecting the optional time code generator/reader AG-F745.

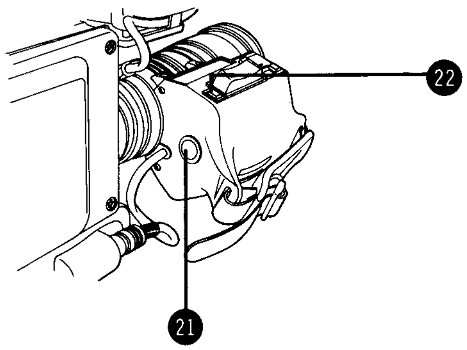
⑳ **External DC Input Connector**
For Connection to the AC Adaptor AG-B640 (option).

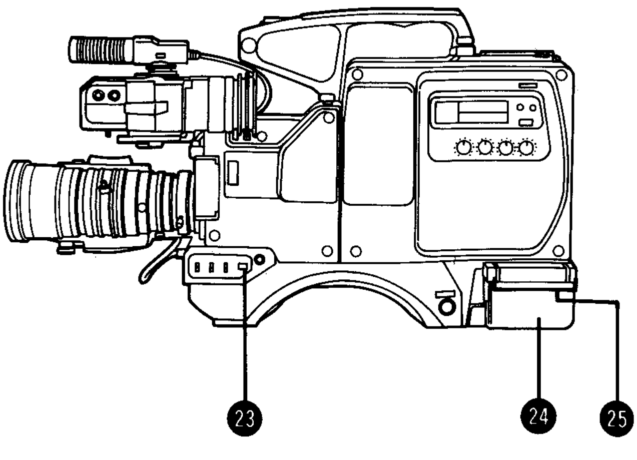


4-pin XLR connector

Pin	Contents
1	GND
2	—
3	—
4	+12V

Camera Side





㉑ **START/STOP Button**
This button provides continuity between frames. Every time it is pressed when the VTR is recording, the VTR will be repeatedly switched between the recording and recording/pause modes.

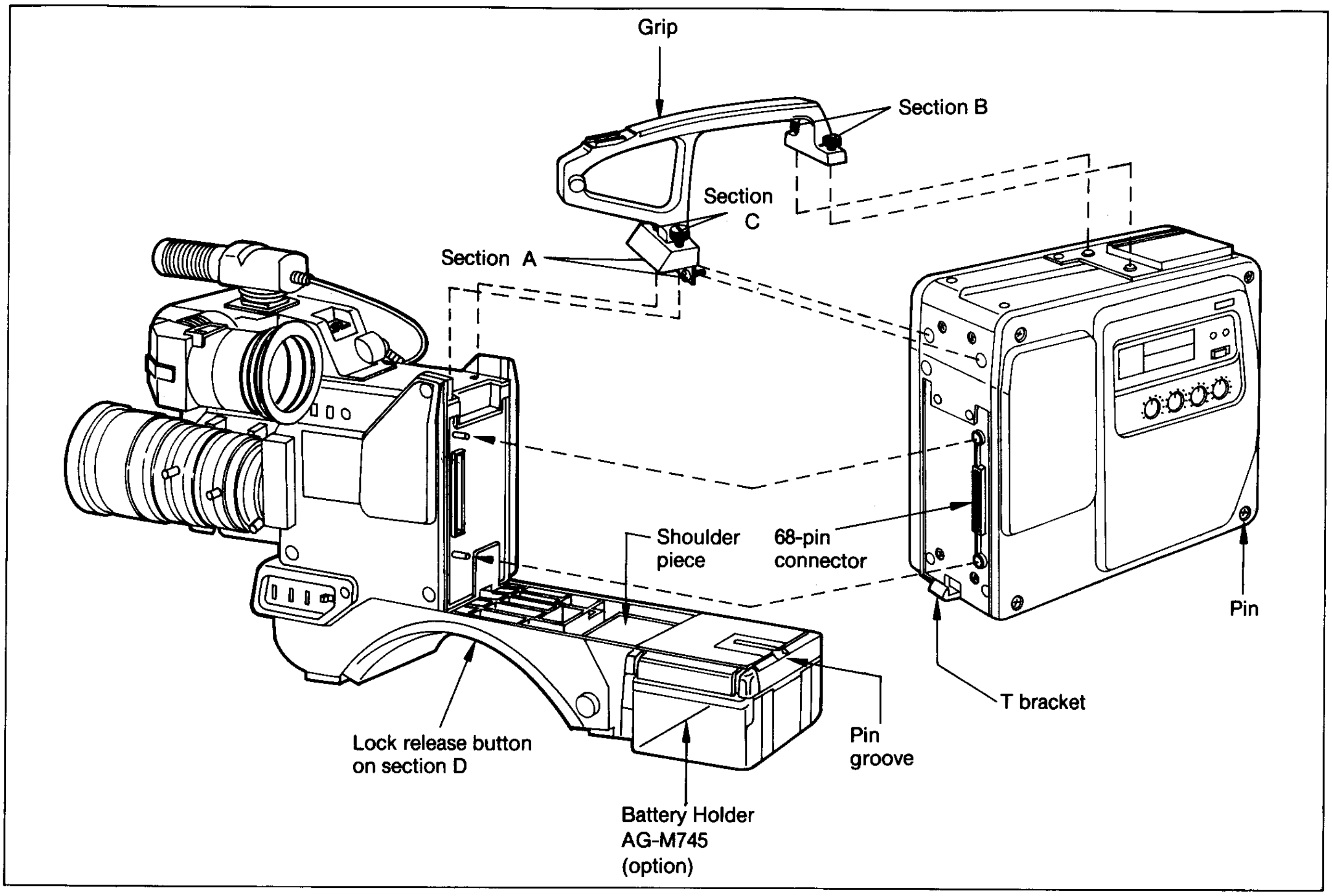
㉒ **RET/REC CHECK Button**
This button is for selecting the return video or recording check function.
The return video function is selected when this button is pressed during playback. When it is pressed during recording/pause, the recorded material will be playback back and the recording/pause mode is established.

㉓ **Power Switch**
When this switch is turned ON, the power is suppplied to the unit.
When this switch is set to the STANDBY position during the recording/pause mode, the camera's power is cut off and the VTR is set to the power-conserving mode.

㉔ **Battery Holder**
This houses the AU-BP220 battery pack.

㉕ **Battery Eject Button**
Press this to remove the battery from the battery holder.

Installation

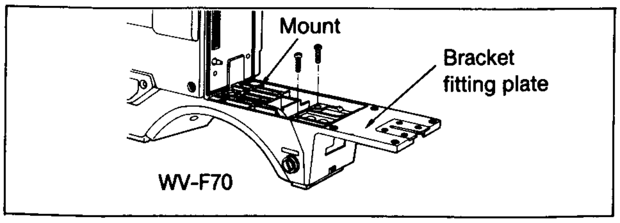

Grip
Section B
Section C
Section A
Shoulder piece
68-pin connector
Pin
T bracket
Pin groove
Lock release button on section D
Battery Holder AG-M745 (option)

(1) Secure section A of the grip to the unit using the screws (×2) provided.
(2) Secure section B of the grip to the unit using the screws (×2) provided.
(3) Slide the unit onto the shoulder piece and connect the 68-pin connector. Make sure that the pin fits into the corresponding pin groove.
(4) Secure section C of the grip to the unit using the screws (×2) provided.

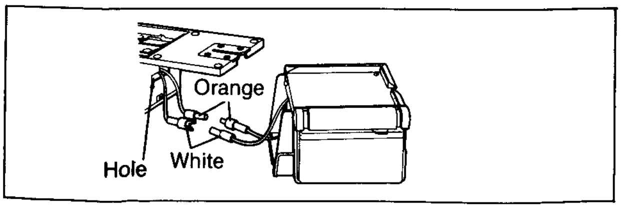
To separate the two units, first remove the screws (×2) in section C of the grip, and then slide the VTR back while pressing the lock release button on section D.

Battery holder mounting method

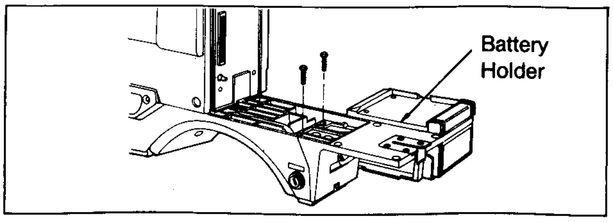
(1) Remove the 2-screws to separate the bracket fitting plate from the mount as shown.


Mount
Bracket fitting plate
WV-F70

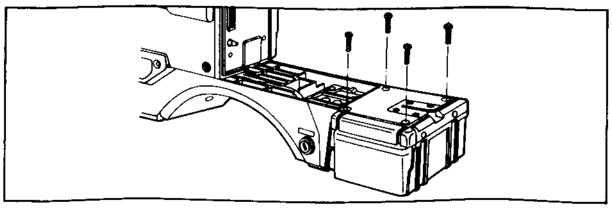
(2) Insert the lead wires from the hole in the bracket fitting plate, and connect the lead wires as shown.


Orange
Hole
White

(3) Attach the bracket fitting plate to the mount.


Battery Holder

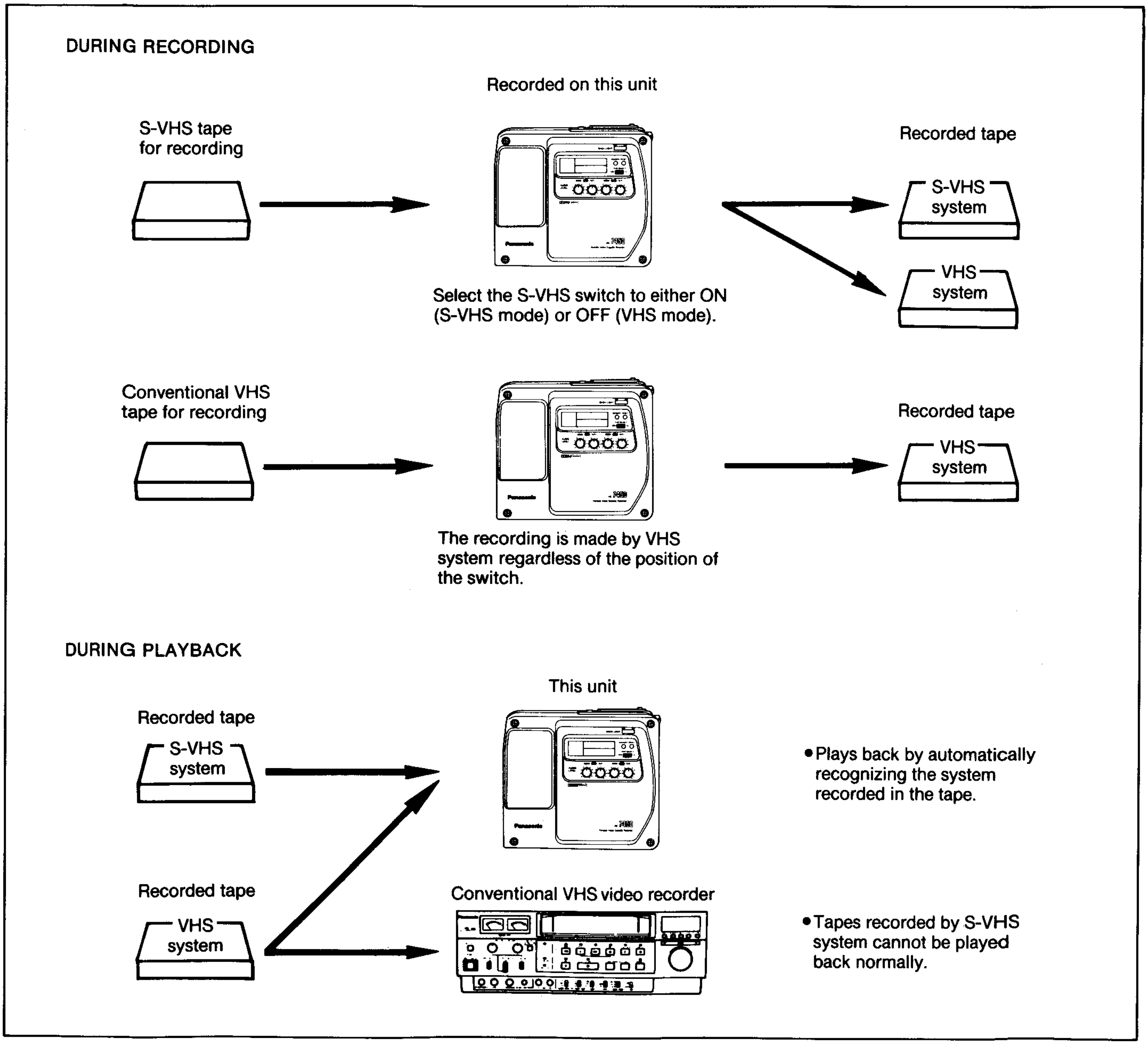
(4) Attach the 4 screws to mount the battery holder to the bracket fitting plate.



GENERAL INTRODUCTION

The Panasonic S-VHS Model AG-7450 VTR provides magnificent picture and audio quality, with less deterioration as a system connected with video camera (WV-F70) or VTR adaptor (AG-S745). Many functions are newly adopted in this model as follows :

Mechanism
Colour Framing
S-VHS System
Flying Erase
VITC / LTC available
XLR Camera / Line / Ext Mic



DURING RECORDING

Recorded on this unit
S-VHS tape for recording
Recorded tape
S-VHS system
VHS system
Conventional VHS tape for recording
Recorded tape
VHS system

Select the S-VHS switch to either ON (S-VHS mode) or OFF (VHS mode).

The recording is made by VHS system regardless of the position of the switch.

DURING PLAYBACK

This unit
Recorded tape
S-VHS system
Recorded tape
VHS system
Conventional VHS video recorder

- Plays back by automatically recognizing the system recorded in the tape.
- Tapes recorded by S-VHS system cannot be played back normally.

Figure 1-1 Interchangeability of Video Recorders and Cassettes

1-1. S-VHS System

The S-VHS System has been designed to meet the critical demands of the Video Information Age.
This system incorporates technologies that provide high resolution and excellent picture quality with the VHS Video system, which is solidly established to the world over for industrial and home use.
The combination of this system with the newly developed S-VHS video cassette has enabled epoch-making progress in picture clarity and detail.
The system produces a horizontal resolution of no less than 400 lines.

	S-VHS	VHS
Y FM CARRIER (MHz)	5.4 (SYNC TIP) ~ 7 (PEAK WHITE)	3.8~4.8
RESOLUTION (LINE)	400	250
WHITE CLIP (%)	210	190
DARK CLIP (%)	70	55
OTHERS	1) S-VHS TAPE 2) SUB EMPHASIS CIRCUIT, (+SUB DEEMPHASIS) 3) PILOT BURST SIGNAL ON RECORDED CHROMA SIGNAL	1) S-VHS or VHS TAPE 2) DETAIL ENHANCER (NO DEEMPHASIS) NOISE CANCEL

Figure 1-2 S-VHS & VHS

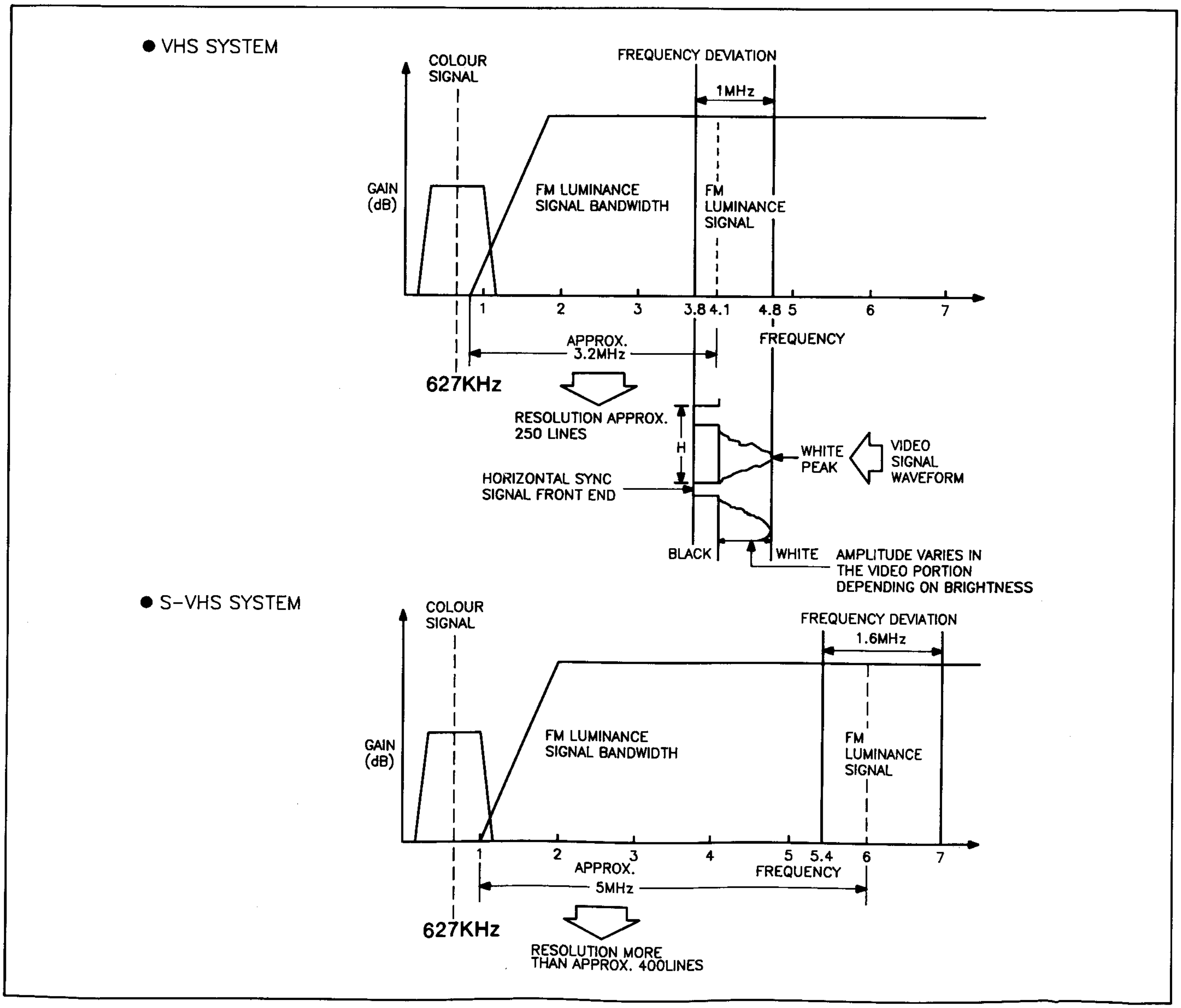

● VHS SYSTEM
COLOUR SIGNAL
FREQUENCY DEVIATION
1MHz
GAIN (dB)
FM LUMINANCE SIGNAL BANDWIDTH
FM LUMINANCE SIGNAL
1
2
3
3.8
4.1
4.8
5
6
7
APPROX. 3.2MHz
FREQUENCY
627KHz
RESOLUTION APPROX. 250 LINES
H
HORIZONTAL SYNC SIGNAL FRONT END
WHITE PEAK
VIDEO SIGNAL WAVEFORM
BLACK
WHITE
AMPLITUDE VARIES IN THE VIDEO PORTION DEPENDING ON BRIGHTNESS
● S-VHS SYSTEM
COLOUR SIGNAL
FREQUENCY DEVIATION
1.6MHz
GAIN (dB)
FM LUMINANCE SIGNAL BANDWIDTH
FM LUMINANCE SIGNAL
1
2
3
4
5
5.4
6
7
APPROX. 5MHz
FREQUENCY
627KHz
RESOLUTION MORE THAN APPROX. 400LINES

Figure 1-3 Frequency Allocation

1-2. S-VHS Cassette Tape

The newly developed tape for S-VHS equipment employs an ultra-high-density charge magnetic layer with superior surface smoothness. Super-fine cobalt-coated ferric oxide particles of extremely high coercivity are used together with a binder material that assures uniform dispersion of the magnetic coating.
The S-VHS Cassette Tape has an ID hole and it is used to recognize the cassette tape whether S-VHS or not as shown in Figure 1-6.

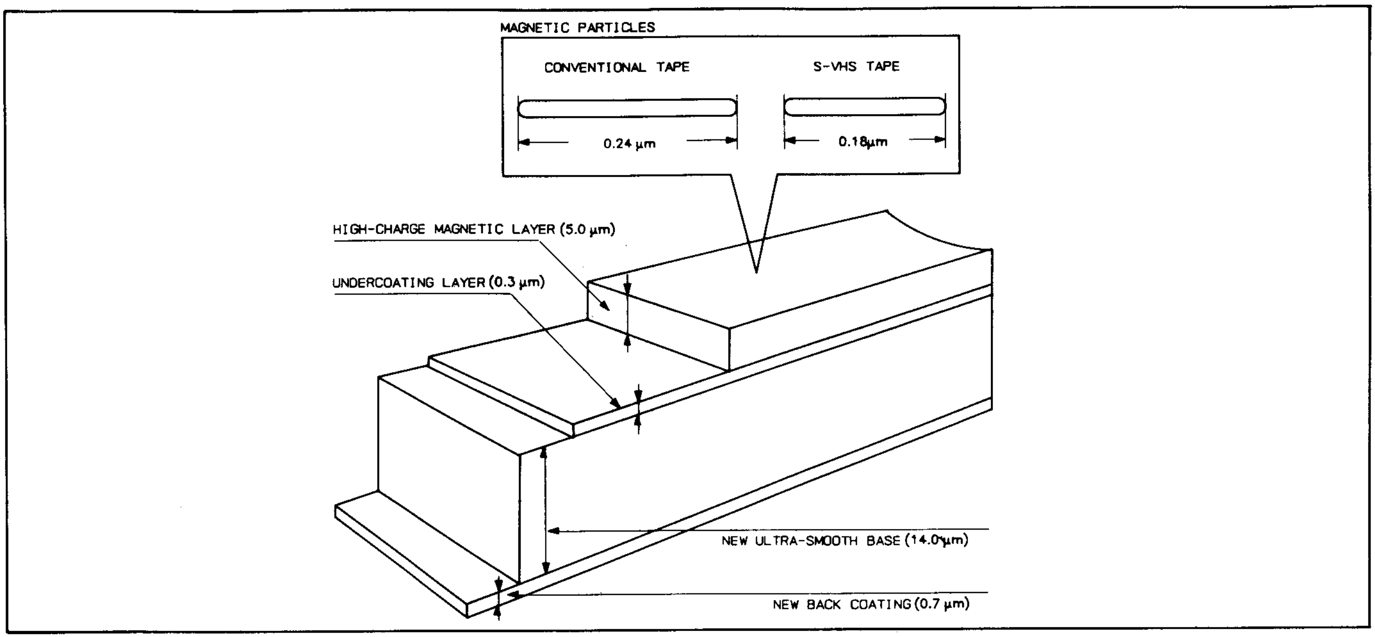
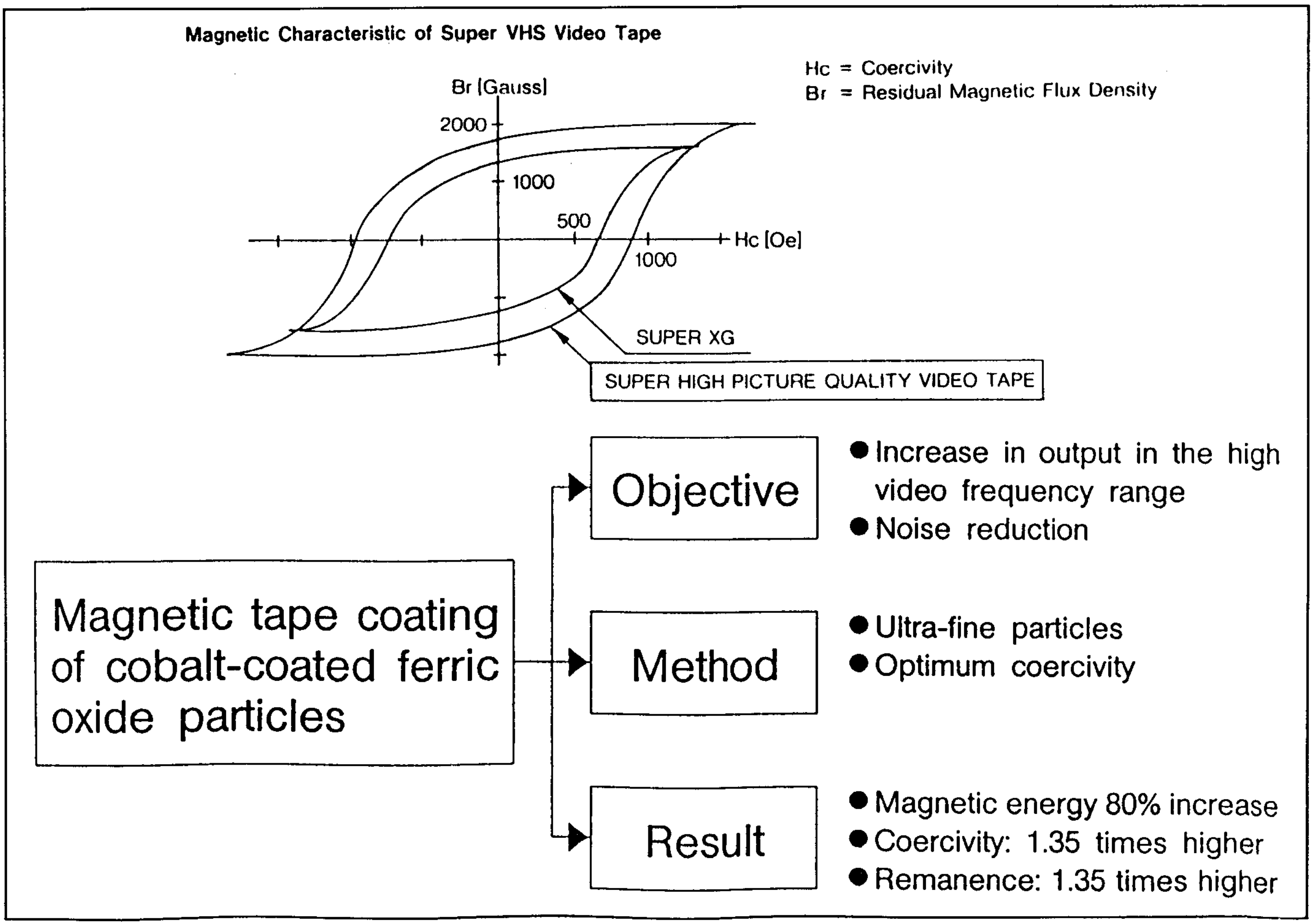

MAGNETIC PARTICLES
CONVENTIONAL TAPE
S-VHS TAPE
0.24 μm
0.18μm
HIGH-CHARGE MAGNETIC LAYER (5.0 μm)
UNDERCOATING LAYER (0.3 μm)
NEW ULTRA-SMOOTH BASE (14.0μm)
NEW BACK COATING (0.7 μm)

Figure 1-4 Ultra High Picture Quality Video Tape (S-VHS Tape)



Magnetic tape coating of cobalt-coated ferric oxide particles

Objective
- Increase in output in the high video frequency range
- Noise reduction

Method
- Ultra-fine particles
- Optimum coercivity

Result
- Magnetic energy 80% increase
- Coercivity: 1.35 times higher
- Remanence: 1.35 times higher

Figure 1-5 Advancement of S-VHS Tape in comparison with conventional Tape

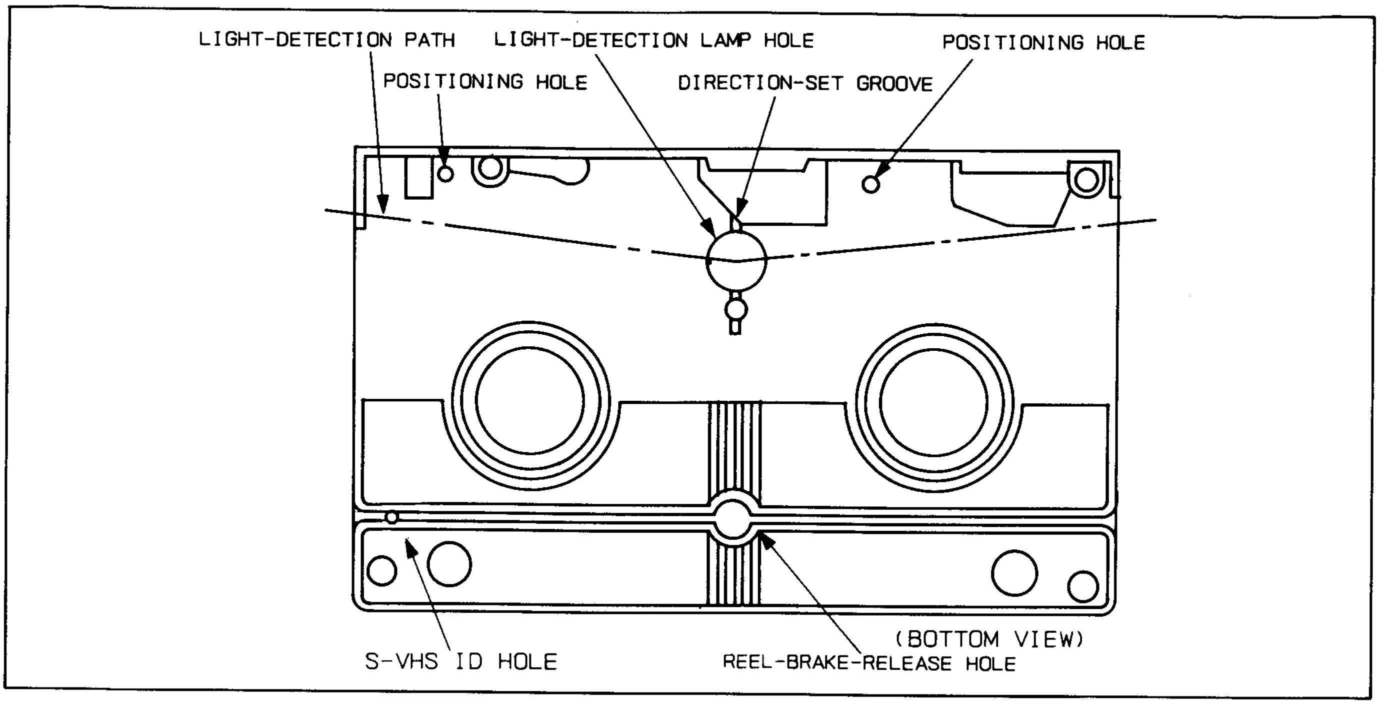

LIGHT-DETECTION PATH
LIGHT-DETECTION LAMP HOLE
POSITIONING HOLE
POSITIONING HOLE
DIRECTION-SET GROOVE
(BOTTOM VIEW)
S-VHS ID HOLE
REEL-BRAKE-RELEASE HOLE

Figure 1–6 Construction of S–VHS Cassette Tape

1–3. Amorphous Video Head System

This S–VHS VTR uses the amorphous laminated video head which achieves extremely high resolution reducing friction with the tape.
The differences between amorphous head and conventional head are shown in Figure 1–7.

The newly developed high performance video head with amorphous alloy laminated films shows better reproduction efficiency than that of a ferrite head especially in the high frequency range. Because the lamination structure decreases the eddy current.
As a result, the amorphous video head has been utilized for this purpose which the performance of head in the high frequency range is good enough to satisfy picture qualities of S–VHS VTR system.

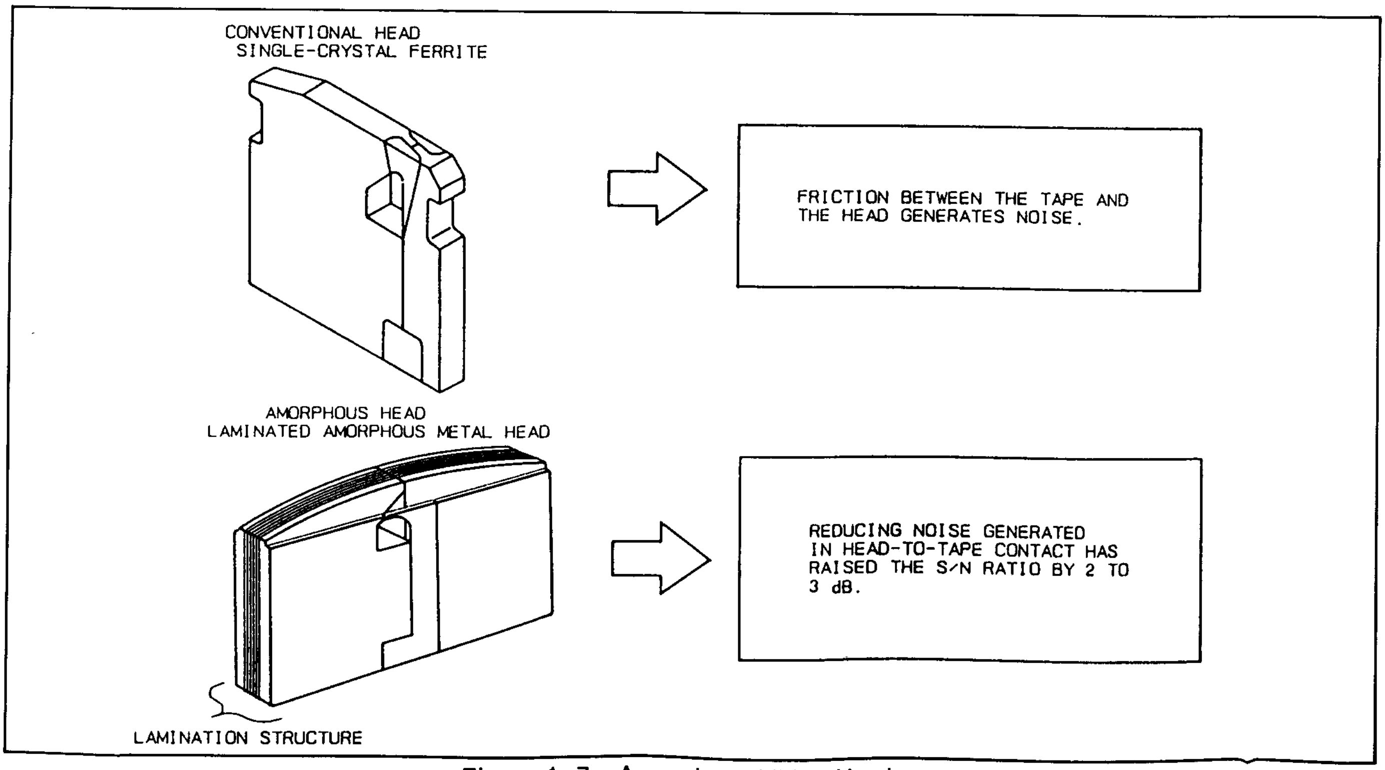

CONVENTIONAL HEAD
SINGLE-CRYSTAL FERRITE
FRICTION BETWEEN THE TAPE AND THE HEAD GENERATES NOISE.
AMORPHOUS HEAD
LAMINATED AMORPHOUS METAL HEAD
REDUCING NOISE GENERATED IN HEAD-TO-TAPE CONTACT HAS RAISED THE S/N RATIO BY 2 TO 3 dB.
LAMINATION STRUCTURE

Figure 1–7 Amorphous Video Head

1–4. Pause Auto Release

If the pause mode continues 5 minutes without interruption, the unit will be placed in a certain mode. This protects both tape and upper cylinder.

MODE	PAUSE TIMER	OPERATION
STILL	5MIN	STOP MODE
REC/ PAUSE	5MIN	TAPE IS REVERSE-DRIVEN SLIGHTLY (ABOUT 1 FRAME) AND STAYS IN REC/PAUSE MODE. (THIS IS REPEATED IN EVERY 5 MINUTES.) WHEN THE REC/PAUSE MODE HAS BEEN ESTABLISHED IN TOTAL ABOUT 30 MINUTES, THE RECORDING MODE IS RELEASED AND THE UNIT IS AUTOMATICALLY SET TO THE STOP MODE.
PAUSE IN AUDIO DUBBING	5MIN	STOP MODE

Figure 1–8 Pause Auto Release

1–5. Auto of Mode (DISPLAY FUNCTION)

If one of the following defects or conditions occur, it will be indicated by the letters "E" etc. on the display.

DISPLAY	DEFECT (CONDITION)	FINAL CONDITION
"d" AND BLINKS	CONDENSATION	FULL UNLOADING MODE CYLINDER ROTATING (WHEN CASSETTE IS IN)
"E" AND BLINKS	LOADING LOCK (6SEC)	AUTO OFF
	UNLOADING LOCK (6SEC)	AUTO OFF
	CYLINDER LOCK (4SEC)	AUTO OFF AFTER UNLOADING
	REEL LOCK	AUTO OFF
"BATTERY" AND BLINKS	VOLTAGE DROPS BELOW 10.5V.	POWER SAVE MODE AFTER UNLOADING

Figure 1–9 Auto off mode (Display Function)

1–6. Internal Switches

The AG-7450 also has some internal switches, which are summarized below.

P.C.B.	SWITCH	NAME	POSITION	FUNCTION	FACTORY STANDARD
AUDIO & DISPLAY	SW4006	DEW SW2	NOR	NORMAL OPERATION	SERVICE
			SERVICE	NO DETECTION OF CONDENSATION	
	SW4005	DEW 1	NOR	NORMAL OPERATION	NOR
			SERVICE	NO DETECTION OF CONDENSATION	
	SW4001	DOLBY	ON	WORKS	ON
			OFF	DOES NOT WORK	
	SW4002	CH2 REC SELECT	MONO	CH1 AUDIO IS FED TO CH2	STEREO
			STEREO	STEREO	
	SW4301	CH1 INPUT LEV	MIC	XLR CH1 INPUT REFERENCE −60dBs	MIC
			LINE	XLR CH1 INPUT REFERENCE −6dBs	
	SW4302	CH2 INPUT LEV	MIC	XLR CH2 INPUT REFERENCE −60dBs	MIC
			LINE	XLR CH2 INPUT REFERENCE −6dBs	
	SW4501	HIFI	ON	HIFI AUDIO WORKS	ON
			OFF	HIFI AUDIO DOES NOT WORK	
VIDEO (1)	SW3001	COLOUR MODE	B/W	COMPULSIVE B/W MODE	COLOUR
			AUTO	AUTO MODE	
			COLOUR	COMPULSIVE COLOUR MODE	
SYSTEM CTL/REEL	SW6001	COLOUR FRAMING	ON	WORKS	ON
			OFF	DOES NOT WORK	

Figure 1–10 Internal Switches

1–7. 68P Connector Pin Assignment

POWER

PIN NO.	SIGNAL	REMARK FOR SIGNAL
1	EXT 12V IN	MAX 3A
3	EXT 12V IN	
35	EXT 12V IN	
31	EXT GND IN	
33	EXT GND IN	
65	EXT GND IN	
67	EXT GND IN	
6	POWER SAVE IN	NORMAL: 3.5~5V SAVE=STANDBY: 0~1.5V
7	SWITCHED 12V IN	12V (MAX 1mA)
23	UNSWITCHED 12V OUT	MAX 1.5A
25	UNSWITCHED 12V OUT	

Figure 1–11(1) 68P Connector

CONTROL

PIN NO.	SIGNAL	REMARK FOR SIGNAL
40	VTR START/STOP IN	START/STOP: 3.5~5V (VTR: 100KΩ PULL DOWN) ※1
41	REC TALLY OUT	REC MODE: 0V (MAX 10mA) OTHER: OPEN (OPEN COLLECTOR OUTPUT)
19	VS PULSE IN	V-SYNC LEVEL: H (3.5~5V) L (0~1.5V) ※2
24	COMPOSITE SYNC IN	C-SYNC LEVEL: H (3.5~5V) L (0~1.5V) ※2
53	FRAMING PULSE IN	FRM LEVEL: H (3.5~5V) L (0~1.5V) ※2
45	REC CHECK IN/OUT	IN REC CHECK: 0~1.5V OTHER: 3.5~5V (470KΩ PULL UP) OUT PLAY MODE: 0V (MAX10mA) OTHER: OPEN (OPEN COLLECTOR OUTPUT)

Figure 1–11(2) 68P Connector

SIGNAL

PIN NO.	SIGNAL	REMARK FOR SIGNAL
8	Y (LUMINANCE) IN (HOT)	[VTR] INPUT IMPEDANCE: 1KΩ LEVEL: 1Vp-p [CAMERA] EMITTER FOLOWER OUTPUT (LOW IMPEDANCE) NO DC BIAS
9	Y (LUMINANCE) IN (GND)	
42	C (CHROMA) IN (HOT)	[VTR] INPUT IMPEDANCE: 1KΩ LEVEL: 0.286Vp-p [CAMERA] EMITTER FOLLOWER OUTPUT (LOW IMPEDANCE) NO DC BIAS
43	C (CHROMA) IN (GND)	
2	MIC IN (HOT) (LCH/1CH)	IMPEDANCE: 4700Ω (UNBALLANCE) LEVEL: −66dBV
36	MIC IN (HOT) (RCH/2CH)	
37	MIC IN (GND)	

Figure 1−11(3) 68P Connector

EVF

PIN NO.	SIGNAL	REMARK FOR SIGNAL
12	RETURN Y OUT (HOT)	[VTR] EMITTER FOLLOWER OUTPUT (LOW IMPEDANCE) NO DC BIAS LEVEL: 1Vp-p [CAMERA] INPUT IMPEDANCE: 5KΩ
13	RETURN Y OUT (GND)	
20	BATTERY WARNING OUT	NORMAL: OPEN (OPEN COLLECTOR OUTPUT) WARNING: 0V (MAX 10mA) ※3
54	VTR WARNING OUT	NORMAL: OPEN (OPEN COLLECTOR OUTPUT) WARNING: 0V (MAX 10mA) ※4
4	AUDIO OUT (HOT) (LCH/1CH)	EMITTER FOLLOWER OUTPUT (LOW IMPEDANCE) NO DC BIAS OUTPUT LEVEL: −8dBV (AT 0VU)
5	AUDIO OUT (GND) (LCH/1CH)	
38	AUDIO OUT (HOT) (RCH/2CH)	
39	AUDIO OUT (GND) (RCH/2CH)	
21	CTL PULSE OUT	LEVEL H: +5V ACROSS 10KΩ REGISTER L: 0V (MAX 10mA) LOW ACTIVE PULSE 25 PULSE/SEC AT REC/PLAY MODE 750 PULSE/SEC AT FF/REW MODE
10	COUNTER RESET IN/OUT	IN NORMAL: 0~1.5V (VTR 100KΩ PULL DOWN) RESET: 3.5~5V OUT NORMAL: OPEN RESET: +5V ACROSS 1KΩ REGISTER
49	TAPE REVERSE OUT	NORMAL: +5V ACROSS 10KΩ REGISTER REVERSE: 0V (MAX 10mA)

Figure 1−11(4) 68P Connector

VTR ADAPTOR

PIN NO.	SIGNAL	SIGNAL FLOW	REMARK
22	COMPONENT H	ADAPTOR → VTR	VTR: 10KΩ PULL-UP TO 5V
44	COLOR L (BAR/CAM)	ADAPTOR ← VTR	COLOUR LOW (0V) B/W HIGH (5V)
46	RETURN C (DTL ON/OFF)	ADAPTOR ← VTR	CAMERA: 100KΩ PULL-UP
47	RETURN C GND (SHT ON/OFF)		
55	SERIAL DATA (GAIN1)	ADAPTOR ↔ VTR	
56	SERIAL CLOCK (GAIN2)	ADAPTOR ↔ VTR	
61	AUDIO MONITOR		
62	AUDIO MONITOR GND (RCU/CAM)		

Figure 1-11(5) 68P Connector

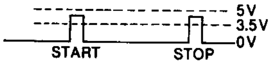
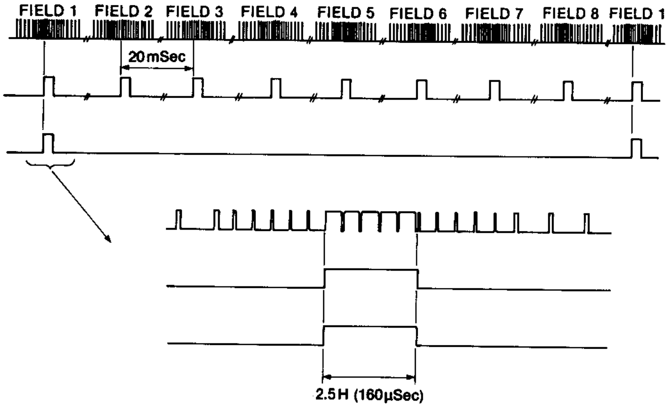
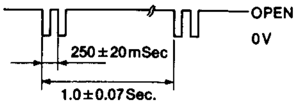
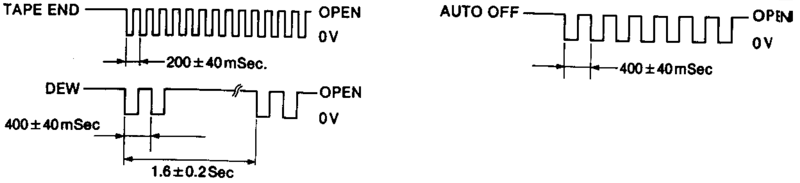
	SIGNAL	WAVE FORM
※1	VTR START/STOP	 5V 3.5V 0V START STOP
※2	COMPOSITE SYNC V-SYNC PULSE FRAMING PULSE	 FIELD 1 FIELD 2 FIELD 3 FIELD 4 FIELD 5 FIELD 6 FIELD 7 FIELD 8 FIELD 1 20mSec 2.5H (160µSec)
※3	BATTERY WARNING	 OPEN 0V 250±20mSec 1.0±0.07Sec.
※4	WARNING	 TAPE END OPEN 0V 200±40mSec. AUTO OFF OPEN 0V 400±40mSec DEW OPEN 0V 400±40mSec 1.6±0.2Sec

Figure 1-11(6) 68P Connector

PARTS LOCATION

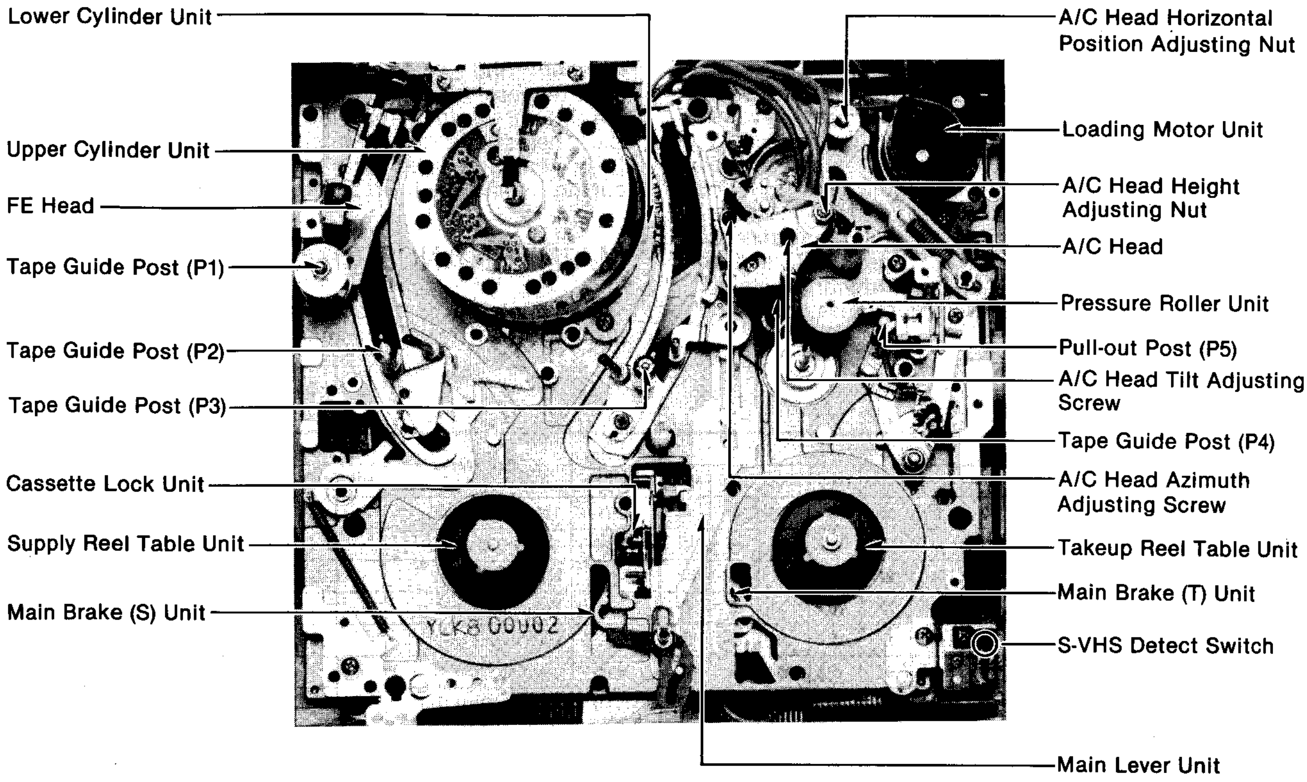

Lower Cylinder Unit
Upper Cylinder Unit
FE Head
Tape Guide Post (P1)
Tape Guide Post (P2)
Tape Guide Post (P3)
Cassette Lock Unit
Supply Reel Table Unit
Main Brake (S) Unit
A/C Head Horizontal Position Adjusting Nut
Loading Motor Unit
A/C Head Height Adjusting Nut
A/C Head
Pressure Roller Unit
Pull-out Post (P5)
A/C Head Tilt Adjusting Screw
Tape Guide Post (P4)
A/C Head Azimuth Adjusting Screw
Takeup Reel Table Unit
Main Brake (T) Unit
S-VHS Detect Switch
Main Lever Unit

Figure 1 Top View

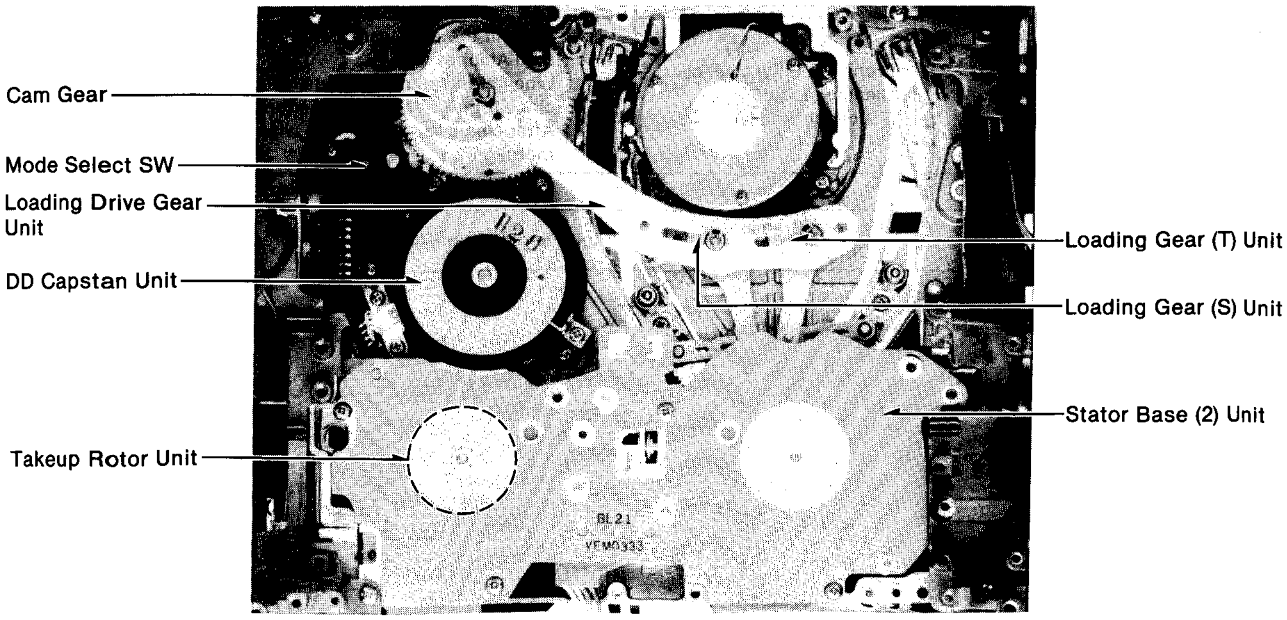

Cam Gear
Mode Select SW
Loading Drive Gear Unit
DD Capstan Unit
Takeup Rotor Unit
Loading Gear (T) Unit
Loading Gear (S) Unit
Stator Base (2) Unit

Figure 2 Bottom View

REGULAR MAINTENANCE

The purpose of periodic maintenance is to preserve the functioning of this machine throughout it's useful life. The user or service dealer should perform these maintenance regularly to ensure that maximum utility is obtained from the machine.

The VCR is a complicated piece of equipment. It contains many belts, rollers, heads etc., which become worn, and deteriorate as time goes by, causing trouble. Dust and dirt will also impede the proper functioning of the machine. In light of this, it is very important that overall maintenance be done according to the maintenance chart to maintain the functions of the VCR, and to avoid accidental problems. This maintenance should also be performed after any repairs are done on the equipment.

The VCR used for business applications requires particular attention for several reasons. The installation conditions and applications are not always the best. Long use times, or poor environmental conditions may adversely affect the lifespan and performance of the machine. Regular maintenance assures that the purchaser obtains the maximum value for his expenditure. Accordingly, the necessity of regular maintenance should be fully explained at the time of sale, as well as during after–sale repairs.

MAINTENANCE CHART

The following periodic maintenance is required to prolong the life of the machine.

Ref. No. IN P/L	Part Name	Hour								Ref. No. IN P/L	Part Name	Hour							
		500	1000	1500	2000	2500	3000	3500	4000			500	1000	1500	2000	2500	3000	3500	4000
	Tape Transporters	●	●	●	●	●	●	●	●	32 (1)	Takeup Rotor U								◎
100 (2)	A/C Head	●	●	●	●	●	●	●	◎	50 (1)	Stator Base (2) U								◎
11 (1)	FE Head	●	●	●	●	●	●	●	◎	84 (2)	Mode Select SW								◎
1 (1)	Upper Cylinder U	●	◎	●	◎	●	◎	●	◎	—	Loading Base				■				■
2 (1)	Lower Cylinder U	●	●	●	●	●	●	●	◎	82 (2)	Cam Gear				■				■
29 (1)	Supply Reel Table U	●	●	●	●	●	●	●	◎	26 (1)	Loading Gear (S) U				■				■
30 (1)	Takeup Reel Table U	●	●	●	●	●	●	●	◎	28 (1)	Loading Gear (T) U				■				■
92 (2)	DD Capstan U	●	●	●	●	●	●	●	◎	103 (2)	Loading Drive Gear U				■				■
93 (2)	Pressure Roller U	●	●	●	◎	●	●	●	◎	95 (2)	Main Lever U				■				■
33 (1)	Main Brake (S) U				◎				◎	55 (1)	Cassette Lock U				■				■
34 (1)	Main Brake (T) U				◎				◎	608 (3)	Cassette Up U				■				■
77 (2)	Loading Motor U				◎				◎										

∗NOTE:

Symbol	Maintenance	Requirement	Remark
●	Cleaning	Freon TF, Ethyl-alcohol or Cleaning Liquid (Purchase locally)	Wipe dirt from the parts using soft cloth impregnated with Freon TF or Ethyl-Alcohol. Note: When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol quickly and thoroughly.
◎	Replacement	——	——
■	Greasing	Molytone Grease (MOR265)	Wipe the old grease and apply new grease.

DISASSEMBLY PROCEDURES

1. DISASSEMBLY FLOWCHART

This flowchart describes the order of steps for removing the cabinet parts and certain printed circuit boards in order to gain access to the items needing servicing. To reassemble the unit, follow the steps in reverse order.

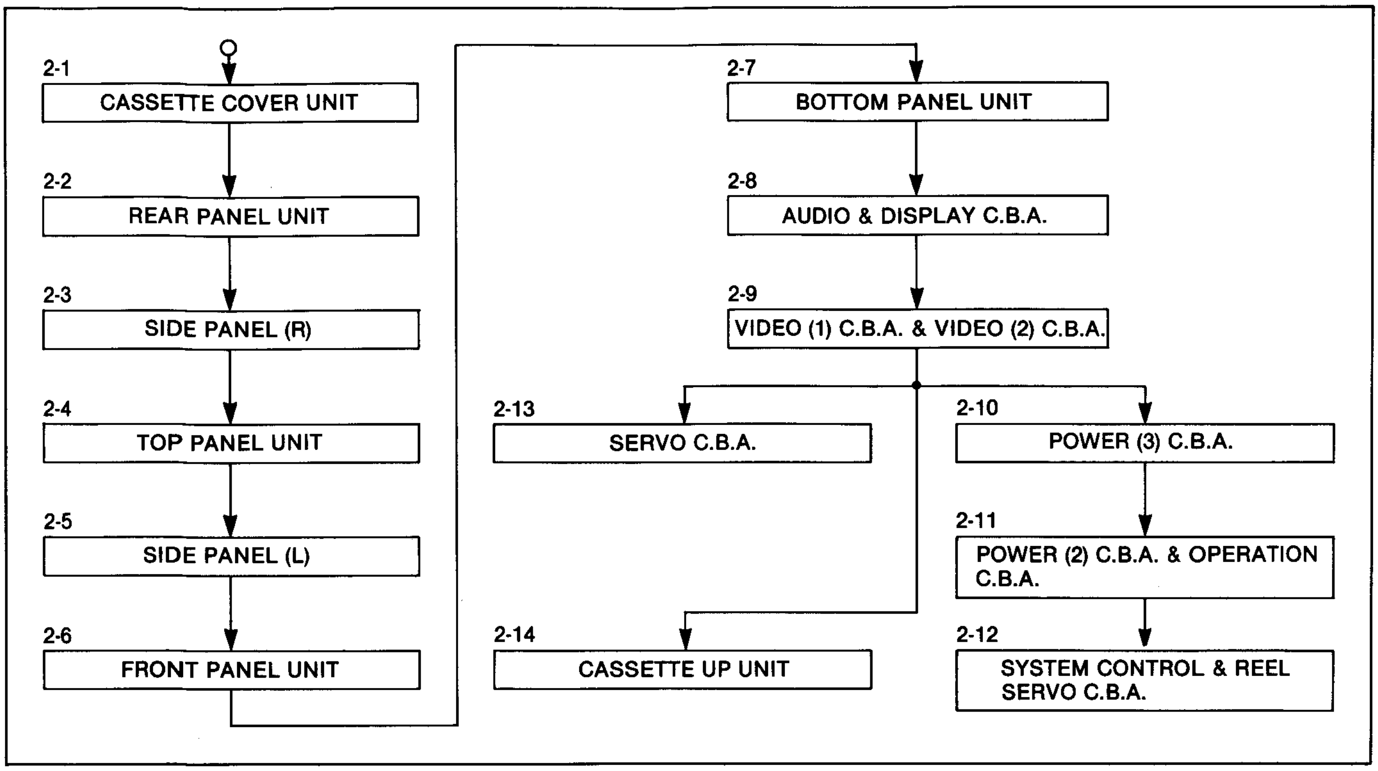

2-1
CASSETTE COVER UNIT
2-2
REAR PANEL UNIT
2-3
SIDE PANEL (R)
2-4
TOP PANEL UNIT
2-5
SIDE PANEL (L)
2-6
FRONT PANEL UNIT
2-7
BOTTOM PANEL UNIT
2-8
AUDIO & DISPLAY C.B.A.
2-9
VIDEO (1) C.B.A. & VIDEO (2) C.B.A.
2-13
SERVO C.B.A.
2-10
POWER (3) C.B.A.
2-11
POWER (2) C.B.A. & OPERATION C.B.A.
2-14
CASSETTE UP UNIT
2-12
SYSTEM CONTROL & REEL SERVO C.B.A.

Figure D1

2. DETAILED DISASSEMBLY METHOD

Notes:
1. Place a cloth or any other soft material under the C.B.A. or deck for preventing them being damaged while servicing.
2. When reassembling, ensure that the connectors are connected and any electrical components are not damaged.
3. Do not supply power to the deck during disassembly except for removal of the cassette cover.

2–1. Removal of Cassette Cover Unit

1. Supply power to the deck and turn it on.
2. Then press the EJECT button to eject the cassette–up holder.
3. Unscrew 2 screws (A). Then carefully release the lock and lift the holder to remove.
4. Pay attention so as not to damage the locking portions (B).

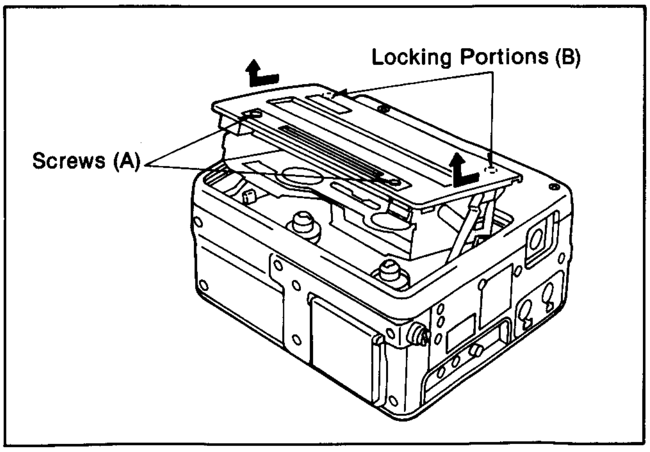

Locking Portions (B)
Screws (A)

Figure D2

Note:
When reinstalling, first lock the locking portions (B).

2–2. Removal of Rear Panel Unit

1. Press the cassette up holder down.
2. Unscrew 5 screws (C) and remove the rear panel unit.

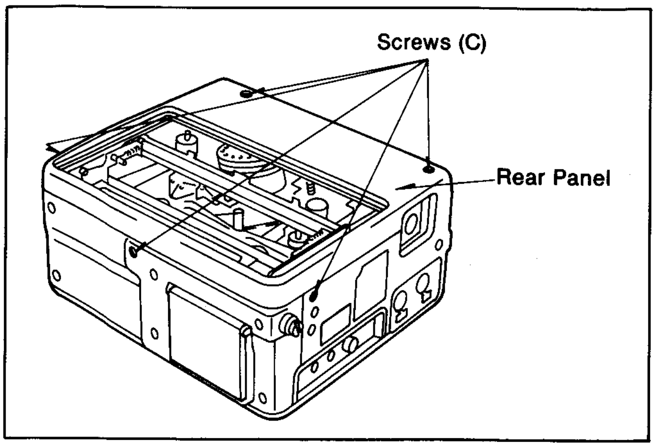

Screws (C)
Rear Panel

Figure D3

2–3. Removal of Side Panel (R)

1. Unscrew 2 screws (D) and remove the side panel (R).

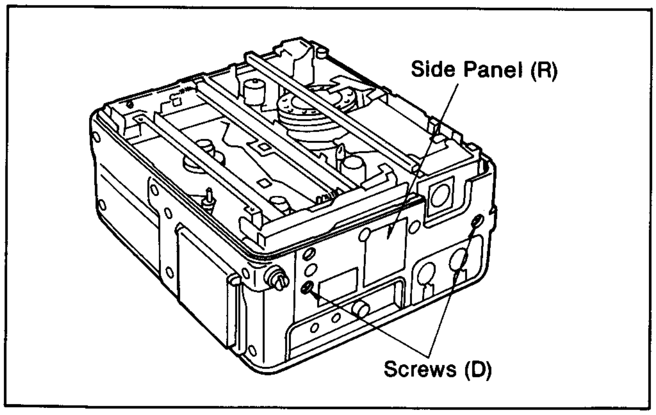

Side Panel (R)
Screws (D)

Figure D4

2–4. Removal fo Top Panel Unit

1. Unscrew 4 screws (E) and remove the top panel unit.

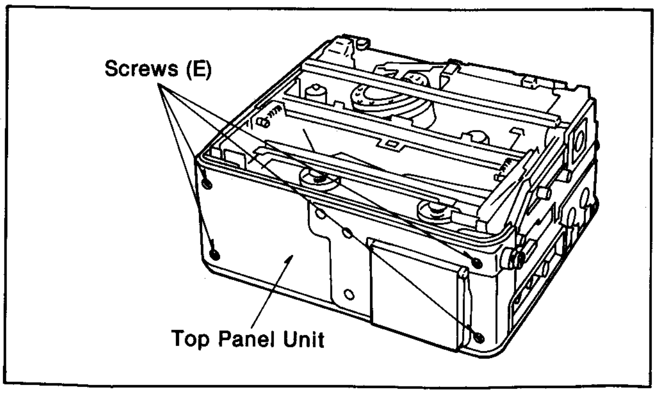

Screws (E)
Top Panel Unit

Figure D5

2–5. Removal of Side Panel (L)

1. Unscrew 4 screws (F) and remove the side pan (L).

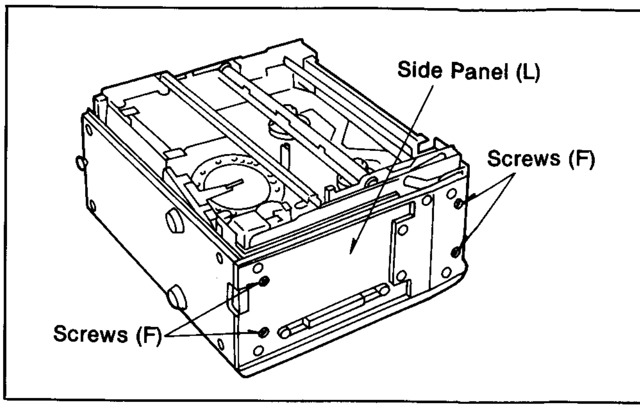

Side Panel (L)
Screws (F)
Screws (F)

Figure D6

2–6. Removal of Front Panel Unit

1. Place the deck upside down so that front pane unit faces upward.
2. Unscrew 4 screws (G) and remove front pane unit.

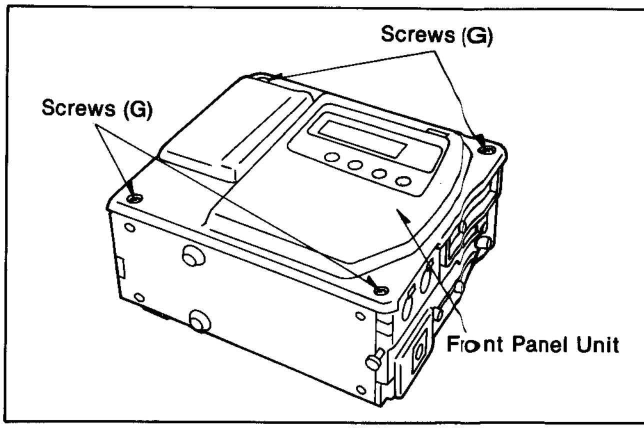

Screws (G)
Screws (G)
Front Panel Unit

Figure D7

2–7. Removal of Bottom Panel Unit

1. Unscrew 4 screws (H) and remove bottom pane unit.

Note:
When removing bottom panel unit, pay attention to the inside portion (I).

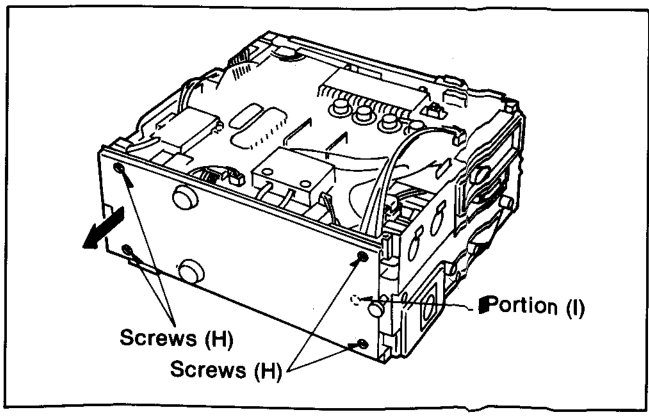

Portion (I)
Screws (H)
Screws (H)

Figure D8

2-8. Opening of Audio & Display C.B.A.

1. Disconnect 2 connectors P6903 & P4302 on the Audio & Display C.B.A.
2. Unscrew 3 screws (J) and open up the Audio & Display C.B.A.

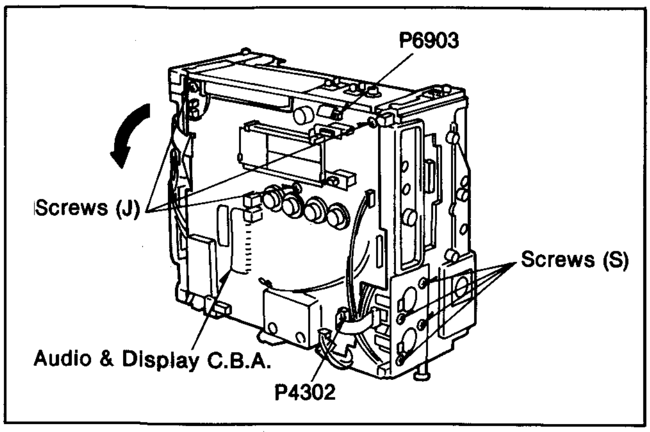

P6903
Screws (J)
Screws (S)
Audio & Display C.B.A.
P4302

Figure D9

Note:
Be ware of handing 2 connectors P6903 & P4302.

1. When audio is checked, Unscrew 4 screws (S).
2. Unscrew 3 screws (J) and disconnect P6903.
3. Open the Audio & Display C.B.A. with XLRs and Audio signal can be checked.

2-9. Opening of Video (1) C.B.A. & Video (2) C.B.A.

1. Unscrew 2 screws (K) and support, and then open up the VIDEO (1) & VIDEO (2) C.B.A.

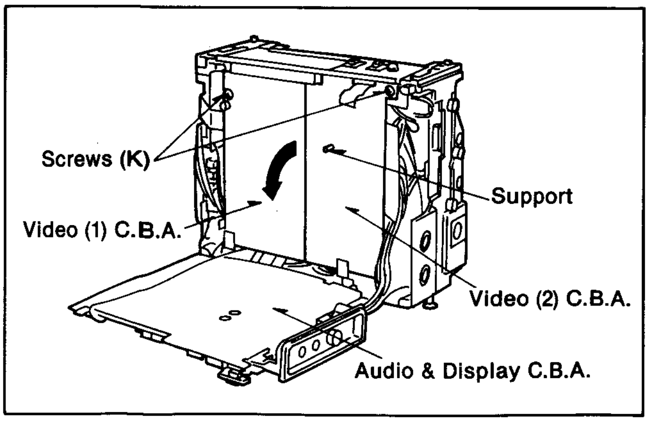

Screws (K)
Support
Video (1) C.B.A.
Video (2) C.B.A.
Audio & Display C.B.A.

Figure D10

2-10. Removal of Power (3) C.B.A.

1. Unscrew 2 screws (U) and remove the Power (3) C.B.A.

2-11. Removal of Power (2) C.B.A. & Operation C.B.A.

1. Unscrew 2 screws (L) and remove the shield plate.

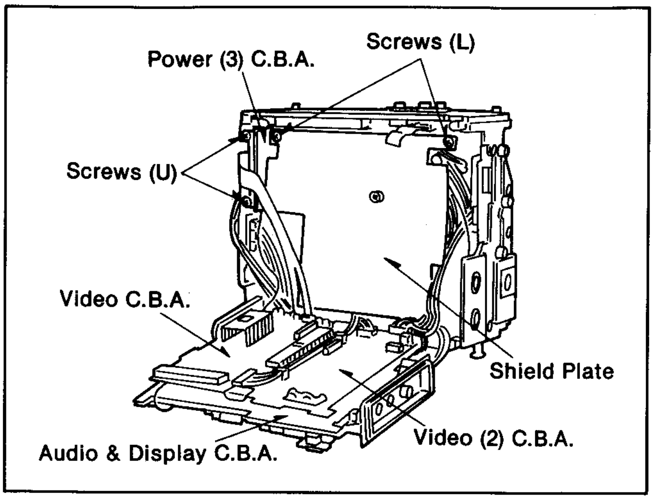

Screws (L)
Power (3) C.B.A.
Screws (U)
Video C.B.A.
Shield Plate
Audio & Display C.B.A.
Video (2) C.B.A.

Figure D11

2. Disconnect a connector P2001 on the Servo C.B.A. and unscrew 2 screws (M).
3. Disconnect 2 direct connectors P6007 and P6014 on the System Control & Reel Servo C.B.A. and then carefully lift the power (2) C.B.A. & Operation C.B.A.

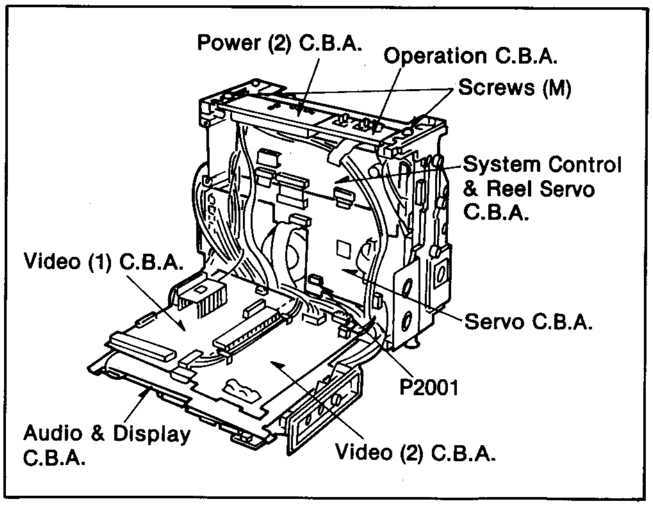

Power (2) C.B.A.
Operation C.B.A.
Screws (M)
System Control & Reel Servo C.B.A.
Video (1) C.B.A.
Servo C.B.A.
P2001
Audio & Display C.B.A.
Video (2) C.B.A.

Figure D12

2-12. Opening of System Control & Reel Servo C.B.A.

1. Unscrew 2 screws (N).
2. Pay attention so as not to damage the connectors & wires, and then remove the System Control & Reel Servo C.B.A.
3. After removing the C.B.A., connect P6014 and P6007 to attach System Control C.B.A. and Operation C.B.A.
4. Put System Control & Reel Servo C.B.A. into the Slit (V).

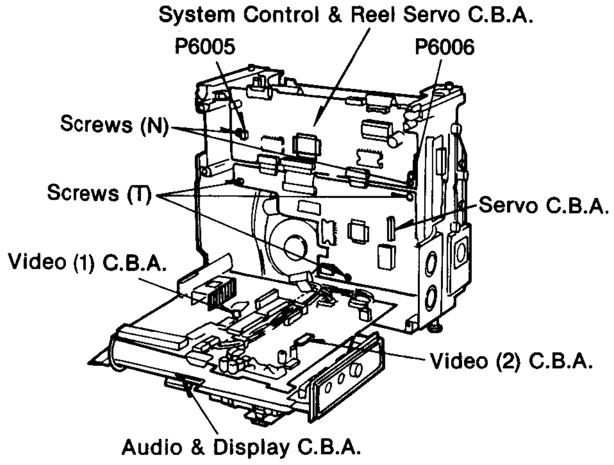

System Control & Reel Servo C.B.A.
P6005
P6006
Screws (N)
Screws (T)
Servo C.B.A.
Video (1) C.B.A.
Video (2) C.B.A.
Audio & Display C.B.A.

Figure D13

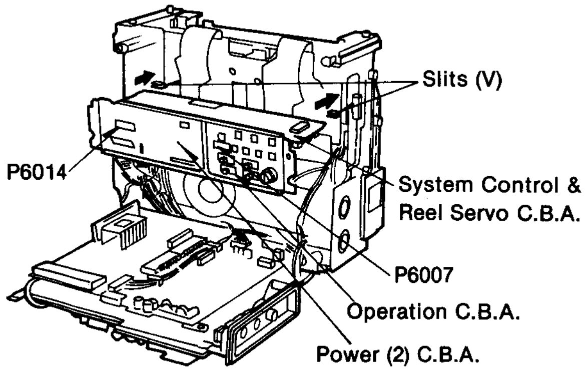

Slits (V)
P6014
System Control &
Reel Servo C.B.A.
P6007
Operation C.B.A.
Power (2) C.B.A.

Figure D14

2–13. Opening of Servo C.B.A.

1. Unscrew 3 screws (T) and remove the Servo C.B.A.
2. Put Servo C.B.A. into the slit (W).

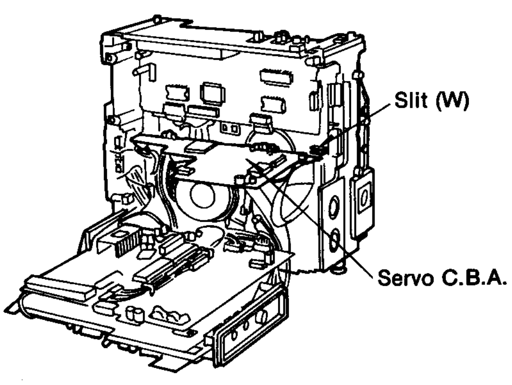

Slit (W)
Servo C.B.A.

Figure D15

2–14. Removal of Cassette–up Unit

1. Disconnect 2 connectors P6006 on the System Control & Reel Servo C.B.A., and P6005 on the same board (Figure D13).
2. Unscrew 2 screws (O) and remove rear reinforcement angle.
3. Disconnect a connector on the Full Erase Head C.B.A. and unscrew 4 screws (P).

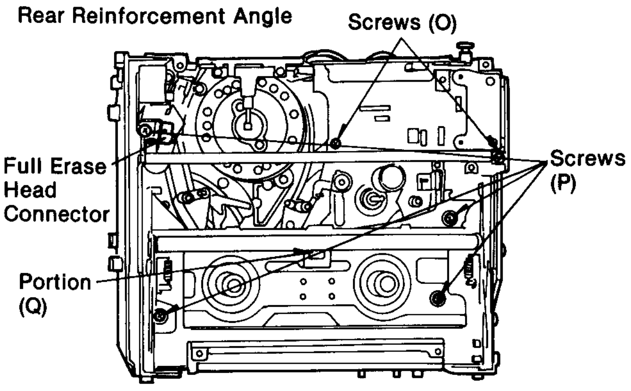

Rear Reinforcement Angle
Screws (O)
Full Erase
Head
Connector
Screws
(P)
Portion
(Q)

Figure D16

4. Push portion (Q) of the cassette lock lever inside of Mechanical Chassis with small screwdriver and eject the cassette–up unit.
5. Unscrew 2 screws (R) and remove cassette up unit.

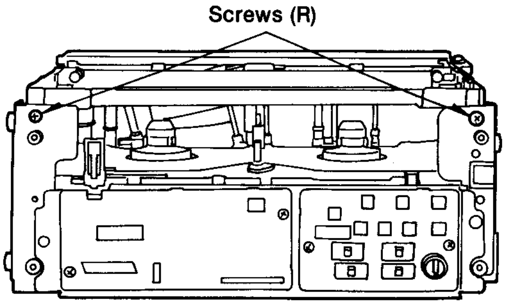


Figure D17

2–15. How to Eject Manually

IN CASE THERE IS NO CASSETTE TAPE INSIDE :

1. Remove cassette cover unit as shown in 2–1 REMOVAL OF CASSETTE COVER UNIT.
2. Press the portion (Q) carefully.

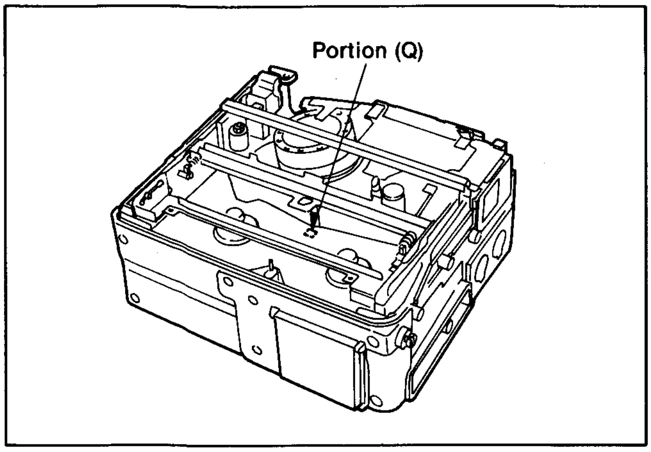


Figure D18

IN CASE THERE IS A CASSETTE TAPE INSIDE :

1. Open System Control & Reel Servo C.B.A. as shown in 2–12 OPENING OF SYSTEM CONTROL & REEL SERVO C.B.A.
2. Make sure that the tape is fully unloaded not to damage the tape.
3. Press portion (X) carefully.

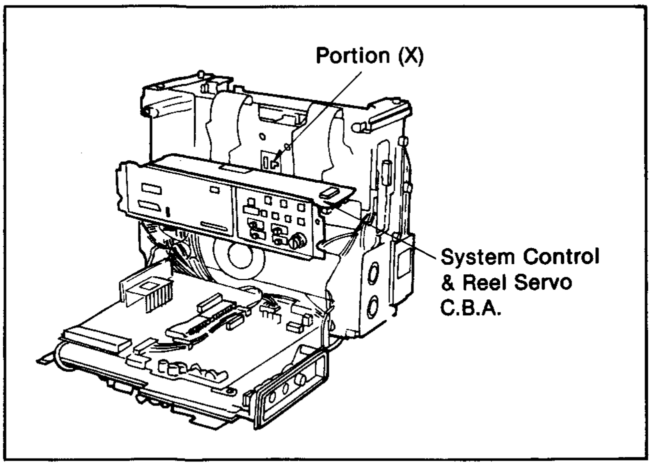

Portion (X)
System Control
& Reel Servo
C.B.A.

Figure D19

MECHANICAL ADJUSTMENT PROCEDURES

This section provides complete mechanical adjustment procedures which may be required for mechanical section.

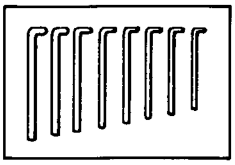
1. SERVICING FIXTURES & TOOLS

VFM8180HMDH VHS Alignment Tape

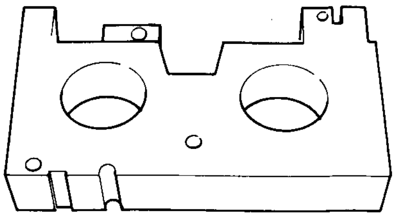
•	(1)	•	(2)	•	(3)	•	(4)

No.	VIDEO	FM AUDIO	NORMAL AUDIO
(1)	MONOSCOPE	—	3kHz (MONO)
(2)	MONOSCOPE	1kHz	6kHz (MONO)
(3)	—	—	400, 1k, 5k, 8kHz (MONO)
(4)	—	—	3kHz (2CH)
• TRANSLUCENT TAPE (150mm)			

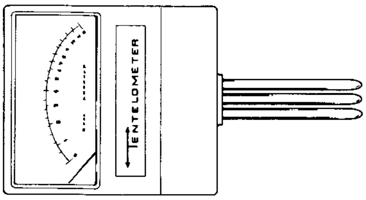
VFK0326 Hex. Wrench (Set)
(0.7, 0.9, 1.2, 1.5, 1.6, 2, 2.4, 3mm)



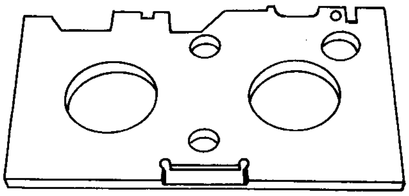
VFK0188 Cassette Holder Fixture



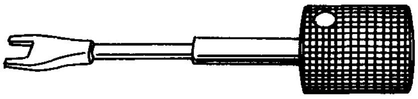
VFK0132 Back Tension Meter (TZ-H7-UM)
(Tentelometer)



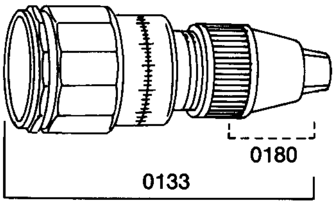
VFK0191 Post Adjustment Plate



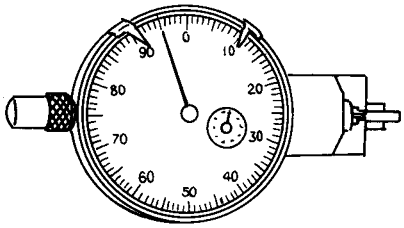
VFK0328 H-Position Adj. Fixture



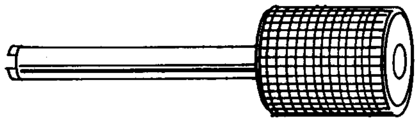
VFK0133 (Dial Torque Gauge)
VFK0180 (Plastic Clamper Only)



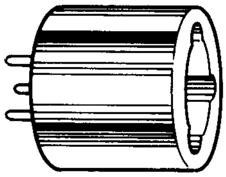
VFK0190 Reel Table Height Fixture



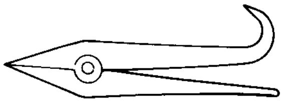
VFK0329 Post Adjustment Screwdriver



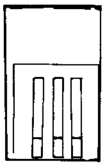
VFK0134 Adaptor for VFK0133



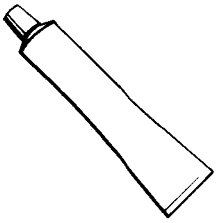
VFK0335 Retaining Ring Remover
(3mm/4mm)



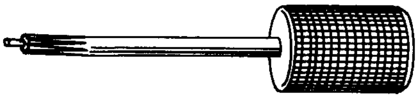
VFK27 Head Cleaning Stick



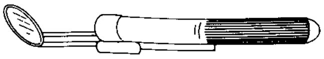
MOR265 Morlytone Grease



VFK0330 Fine Adjustment Screwdriver (3mmφ)



VFK0343 Check Light



Height Quality Machine Oil
<Purchase Locally>
(Reel Shaft. Capstan Shaft etc.)

Cleaning Liquid
(Freon TF., Alchol)
<Purchase Locally>
(Tape Transport Rubber Parts etc.)

2. CYLINDER MAINTENANCE PROCEDURES

2–1. PROCEDURE FOR CLEANING OF THE CYLINDER UNIT

1. Position the video head to permit access for cleaning and hold the upper cylinder to keep it from turning while cleaning.
2. Gently rub the video head in direction of tape travel with Head Cleaning Stick moistened with Freon TF.
3. Repeatfor the othervideo heads.(Figure M1).

*Notes:
  1. Do not rub vertically.
  2. Do not apply any pressure to head. If contaminant is not easily removed, continued gentle wiping will usually remove the substance.
  3. Do not rotate the Upper Cylinder Unit clockwise when cleaning it.

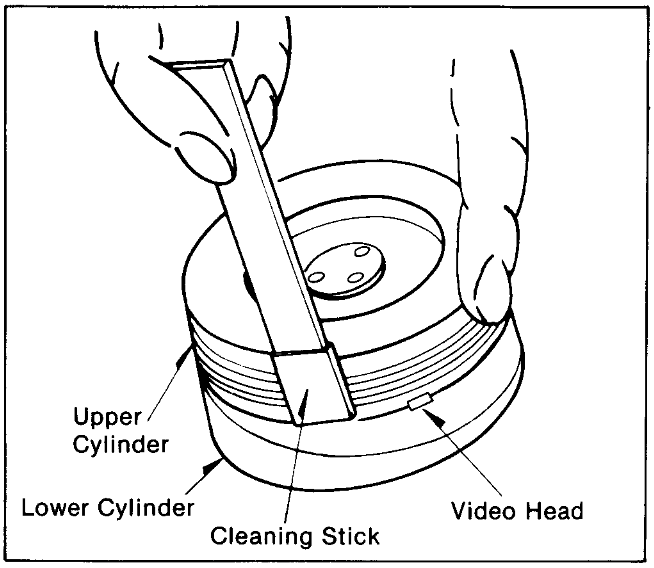
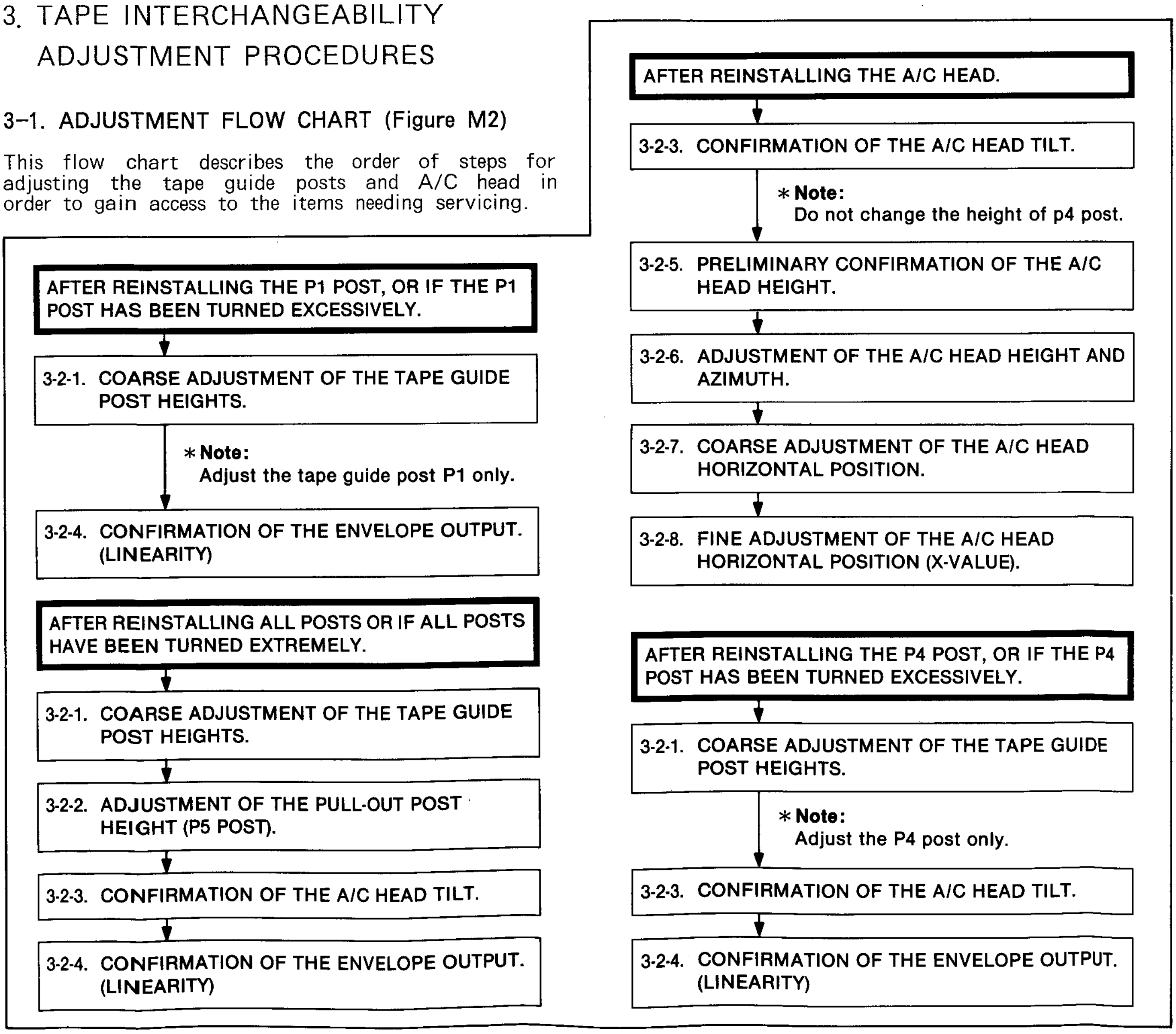


Figure M1 Head Cleaning

3. TAPE INTERCHANGEABILITY ADJUSTMENT PROCEDURES

3–1. ADJUSTMENT FLOW CHART (Figure M2)

This flow chart describes the order of steps for adjusting the tape guide posts and A/C head in order to gain access to the items needing servicing.



AFTER REINSTALLING THE P1 POST, OR IF THE P1 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

* **Note:**
Adjust the tape guide post P1 only.

3-2-4. CONFIRMATION OF THE ENVELOPE OUTPUT. (LINEARITY)

AFTER REINSTALLING ALL POSTS OR IF ALL POSTS HAVE BEEN TURNED EXTREMELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

3-2-2. ADJUSTMENT OF THE PULL-OUT POST HEIGHT (P5 POST).

3-2-3. CONFIRMATION OF THE A/C HEAD TILT.

3-2-4. CONFIRMATION OF THE ENVELOPE OUTPUT. (LINEARITY)

AFTER REINSTALLING THE A/C HEAD.

3-2-3. CONFIRMATION OF THE A/C HEAD TILT.

* **Note:**
Do not change the height of p4 post.

3-2-5. PRELIMINARY CONFIRMATION OF THE A/C HEAD HEIGHT.

3-2-6. ADJUSTMENT OF THE A/C HEAD HEIGHT AND AZIMUTH.

3-2-7. COARSE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION.

3-2-8. FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION (X-VALUE).

AFTER REINSTALLING THE P4 POST, OR IF THE P4 POST HAS BEEN TURNED EXCESSIVELY.

3-2-1. COARSE ADJUSTMENT OF THE TAPE GUIDE POST HEIGHTS.

* **Note:**
Adjust the P4 post only.

3-2-3. CONFIRMATION OF THE A/C HEAD TILT.

3-2-4. CONFIRMATION OF THE ENVELOPE OUTPUT. (LINEARITY)

Figure M2–1

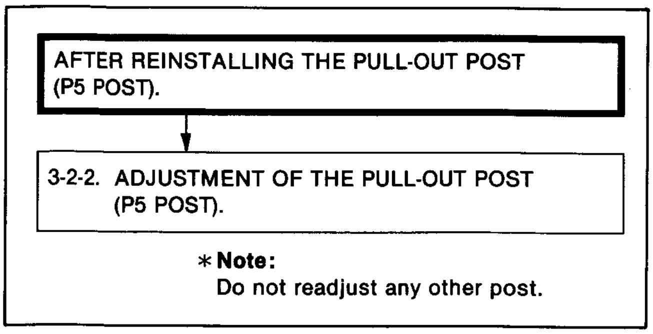

AFTER REINSTALLING THE PULL-OUT POST (P5 POST).
3-2-2. ADJUSTMENT OF THE PULL-OUT POST (P5 POST).
* Note:
Do not readjust any other post.

Figure M2–2

3–2. ADJUSTMENT PROCEDURES

3–2–1. Coarse Adjustment of the Tape Guide Post Heights (P1,P2,P3 and P4)

*Note:

1. The Tape Guide Posts have been precisely adjusted at the factory.
   Therefore, normally do not change the height of the P1 and P4 Posts.
   The following adjustment is required only when replacing the posts.
2. If the curling is apparent proceeded to the P4 Post, wipe dirt from the Pressure Roller and Capstan Shaft using a soft cloth impregnated with Freon TF or cleaning liquid.
3. To prevent the alignment tape from being damaged, use a normal cassette tape for this procedure.

*Equipment Required:
Post Adjustment Plate................VFK0191
Reel Table Height Gauge..............VFK0190
Nut Driver (Purchase locally)
Post Adjustment Screwdriver..........VFK0329
Check Light..........................VFK0343

1. Remove the cassette–up unit.
2. Place the Post Adjustment Plate over the reel tables. (Figure M3). Confirm that the Post Adjustment Plate is firmly seated.

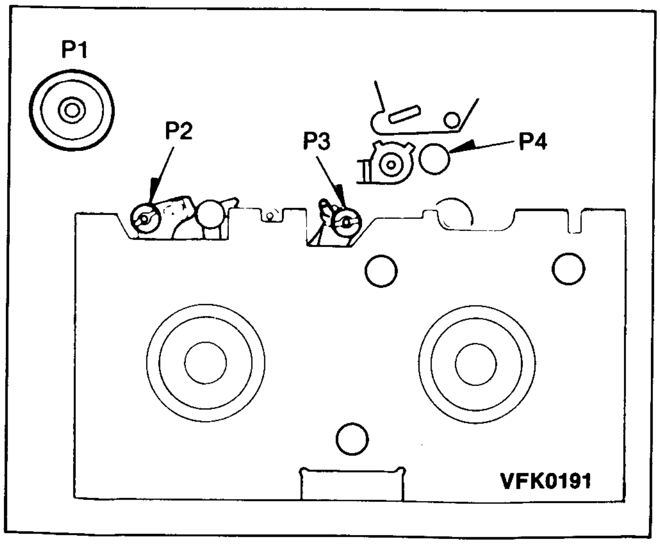

P1
P2
P3
P4
VFK0191

Figure M3

3. Lower the tape guide posts so that the lower flange of the each post is below the top surface of the adjustment plate.
   Use the Post Adjustment screwdriver to lower posts P2 and P3, and the Nut Driver to lower posts P1 and P4.
4. Place the Reel Table Height Fixture on the Post Adjustment Plate and lower the scraper so that it touches the plate.

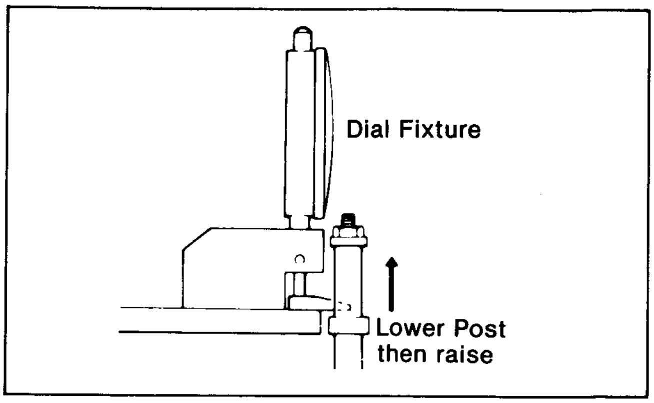

Dial Fixture
Lower Post then raise

Figure M4

5. Place the side of the scraper against the each post as shown in Figure M4, set the fixture to zero, then slowly raise the post until the lower flange of the post just touches the bottom of the scraper. Use the fixture to determine the exact point at which the lower flange of the post touches the scraper (Figure M5).

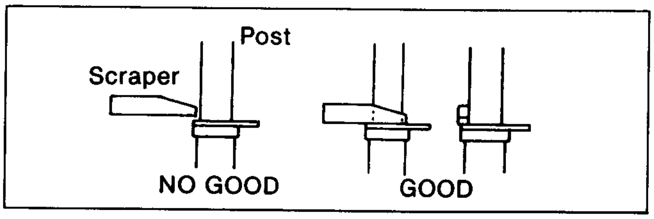

Post
Scraper
NO GOOD
GOOD

Figure M5

6. Play back the ending portion of NV–E180 cassette, and confirm that the lower flange of the P1 post just touches the bottom edge of the tape by using the Check Light. If there is waving or frilling at the lower or upper edge of P1 Post, readjust the Height of P1 Post correctly. (Figure M6)

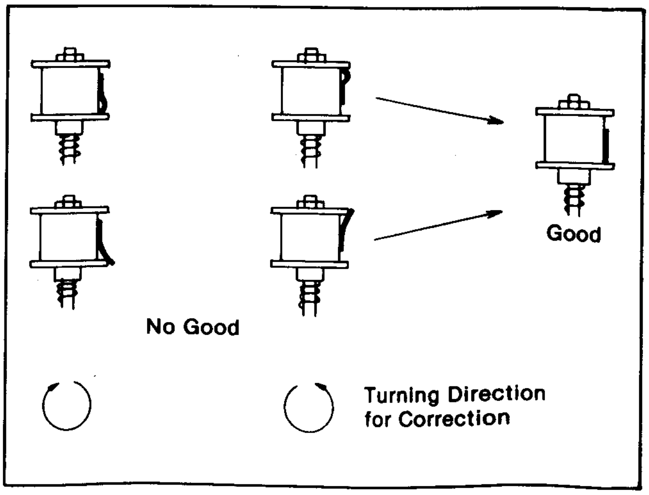

Good
No Good
Turning Direction for Correction

Figure M6

7. Confirm that the lower flange of the P4 post just touches the bottom edge of the tape by using the Check Light.
   If there is waving or frilling at the lower or upper edge of the tape, correct the tilt of A/C Head, After adjusting tilt of the A/C Head, the A/C Head Height Adjustment may be needed. (Figure M7)

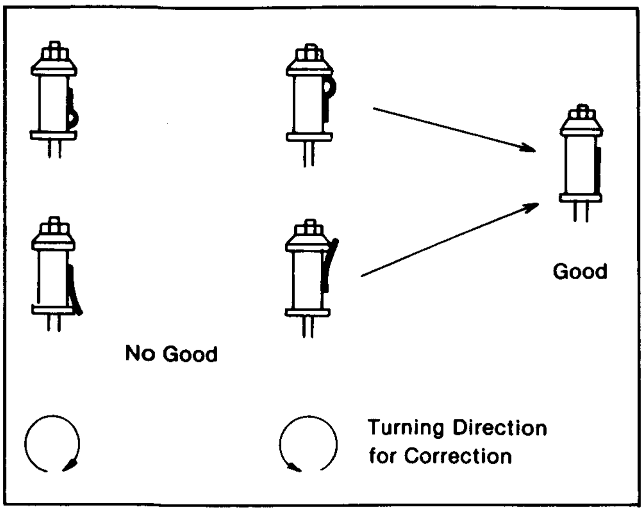


Figure M7

8. While repeating the Loading and Unloading, confirm tape travel by using the Check Light.
   If there are waving or frilling at the lower or upper edge of the P2 and P3 Posts, readjust the heights of P2 and P3 Posts, readjust the heights of P2 and P3 Posts correctly so that the upper flanges of P2 and P3 posts just touch the upper edge of the tape. (Figure M8).

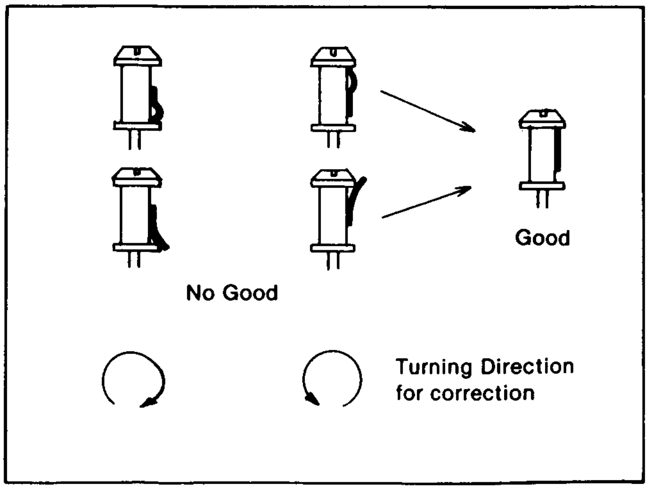


Figure M8

9. Confirm that the tape runs along the Cylinder Lead Correctly.
10. After adjusting the Tape Guide post Hights (P1, P2, P3, P4) adjustment of the Final Tape Interchangeability is required.
    (Refer to the items 3–2–3 through 3–2–8).

*Note:
Use the beginning and end portions of the NV–E180 cassette.

3–2–2. Adjustment of the Pull–Out Post (P5 Post) Height

*Notes:
1. This adjustment should be performed only after adjusting tape guide post P4 as the height of the pull–out post is based on the height of post P4.
2. This adjustment should be performed with the unit in the loading–completion mode. Therefore before this adjustment, simulate the cassette down condition without cassette tape.

*Tools and Equipment Required:
PostAdjustment Plate....................VFK0191
Reel Table Height Fixture................VFK0190
Nut Driver (Purchase locally)

PREPARATION

1. Remove the cassette compartment, and cover the take–up and supply photo transistors with black tape.
   Press the Lock Lever (B) until the cassette down condition as shown in figure M9.

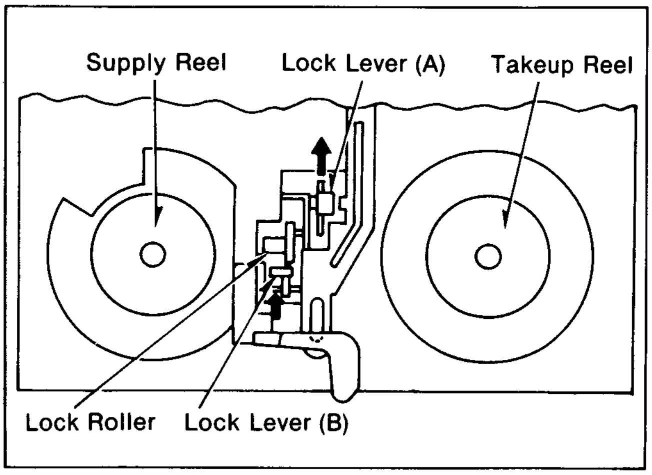


Figure M9 Cassette Down Condition Without Cassette Tape

2. After this adjustment is finished, return the Lock Lever (B) to Eject position as described below.
3. How to return Eject position.
   Pull up the Lock Roller, while Pressing the Lock Lever (A) as direction indicated by the arrow shown in Figure M9.

ADJUSTMENT

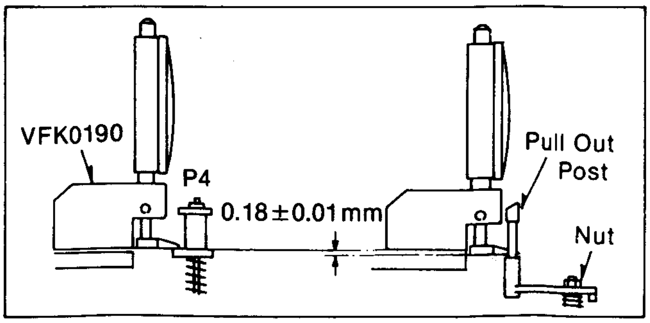


Figure M10 P5 Post

1. Turn the power switch on.
2. Insert a cassette tape to the cassette compartment, then press the play button. This simulates the loading completion mode.
3. Unplug the unit from the power source.
4. Place the Post Adjustment plate over the reel tables.
5. Place the Reel Table Height Fixture on the tape guide post P4,lower the scraper so that it touches the lower edges of P4, then set the gauge to zero ("0"). (Figure M10)
6. Slightly lower the pull-out post by turning the nut on the post clockwise with the nut driver, and set the side of the scraper against the post as shown in Figure M10.
7. Slowly turn the nut on the post counterclockwise until the Fixture reads 0mm. (Figure M10)
8. Confirm there is no tape curling at P4 post during reverse mode.
   If tape curling occurs, back to step 5.

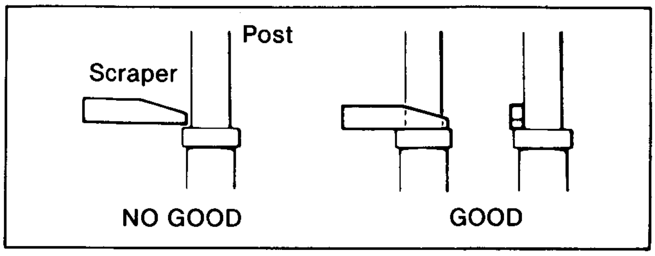


Figure M11 Post Adjustment

3-2-3. Confirmation of the A/C Head Tilt

*Note:
This procedure should be performed after replacing the A/C head and pressure roller, and adjusting the height of the tape guide post (P4).

*Tools and Equipment Required:
Nut Driver (purchase locally)

1. Play back the beginning portion of NV-E180 cassette tape and confirm that the tape runs between lower and upper limiters of the P4 post. If there is waving or frilling in the lower edge or top edge of the tape, correct the tilt of the A/C head by turning the screw(C) located behind the A/C head. (Figure M12)

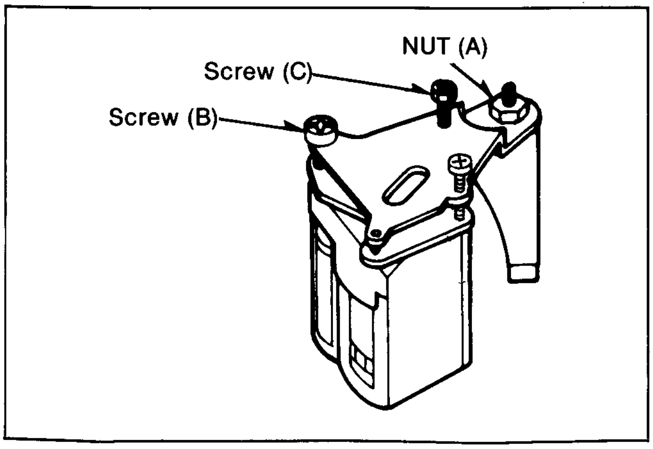


Figure M12 A/C Head Tilt

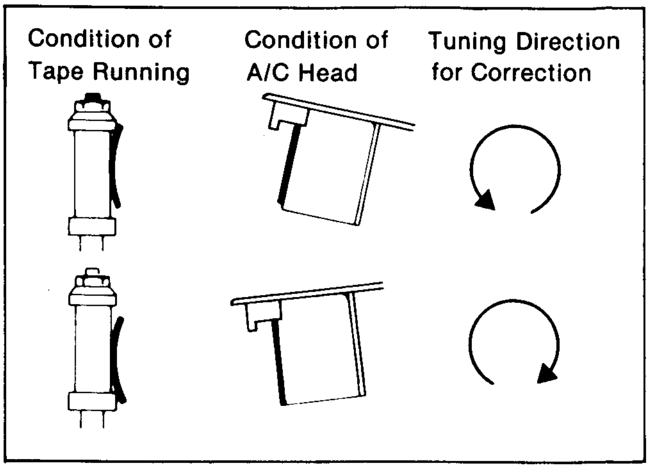


Figure M13 Confirmation of Tilt of A/C Head

2. If correction of the tape curling cannot be accomplished by adjusting the A/C head tilt, then readjustment of the height of the tape guide post (P4) may be needed.

*Notes:
1. The tape guide post (P4) has been precisely adjusted at the factory. Therefore, normally the tape guide post (P4) readjustment is not required to eliminate the tape curling.
2. After adjusting the A/C head tilt, the A/C head height adjustment is required.

3-2-4. Confirmation of the Envelope Output (Linearity)

*Note:
Before playing back the alignment tape, play back a normal cassette tape and confirm correct transport.

*Tools and Equipment Required:
Hex Wrench Set............................VFK0326
Post Adjustment Screwdriver...............VFK0329
Alignment Tape..................VFM8180HMDH

1. Connect the scope to TP5003 on the HEAD AMP section and TP5004 on the same C.B.A. to Ext-Trigger of the scope.
2. Play back the 2nd portion (Monoscope) of the alignment tape VFM8180HMDH.
3. Turn the Tracking Control VR and adjust for maximum VIDEO FM envelope.
4. If the VIDEO FM envelope appears like example "A" or "B" in figure M14, then adjustment of the tape guide post (P2:Entrance) is necessary.
5. Adjust the tape guide post (P2) with the post adjustment screwdriver so that the VIDEO FM envelope waveform at the entrance portion becomes flat as shown "C" in Figure M14.

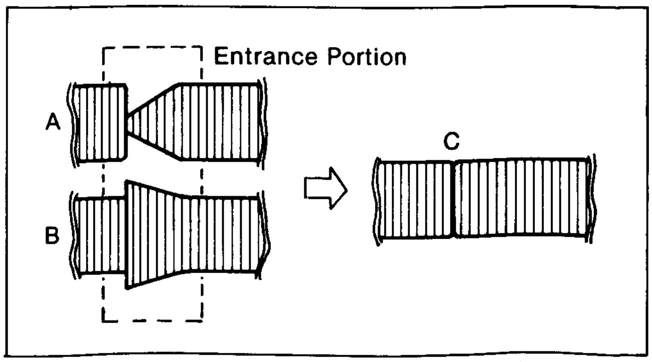


Figure M14 VIDEO FM Envelope(1)

6. If the VIDEO FM envelope appears like example "D" or "E" in Figure M15, then adjustment of the tape guide post (P3: Exit) is necessary.
7. Adjust the tape guide post (P3) in the same manner as the P2 post so that the exit portion becomes flat as shown in "F" in Figure M15.

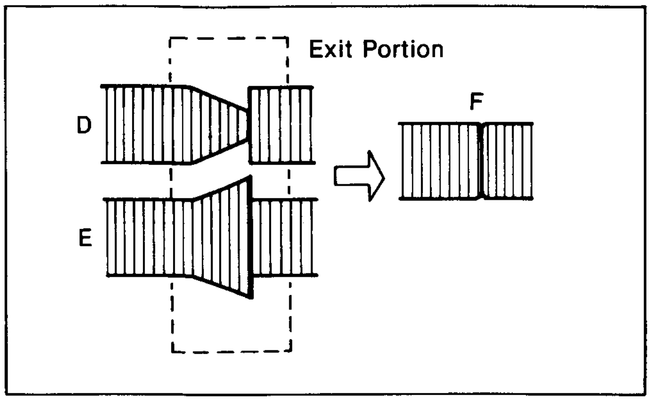


Figure M15 VIDEO FM Envelope(2)

8. Turn the Tracking VR from end to end. The variation of VIDEO FM envelope should be nearly parallel as shown in Figure M16.
9. Turn the Tracking VR and adjust for maximum VIDEO FM envelope. If the VIDEO FM envelope does not meet these specs,

   V1/V = more than 0.7
   V2/V = more than 0.8

   then repeat steps 1–8 again. (Figure M18)

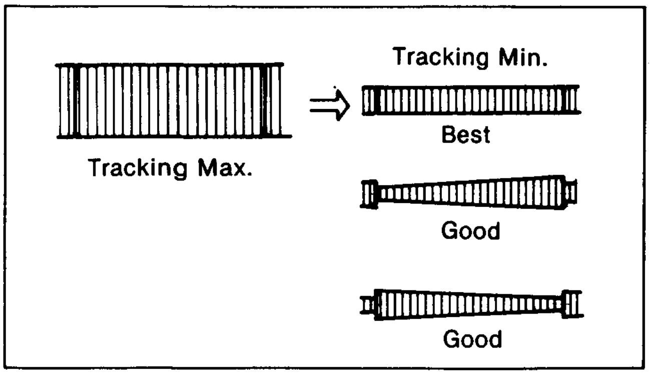


Figure M16 FM Envelope (3)

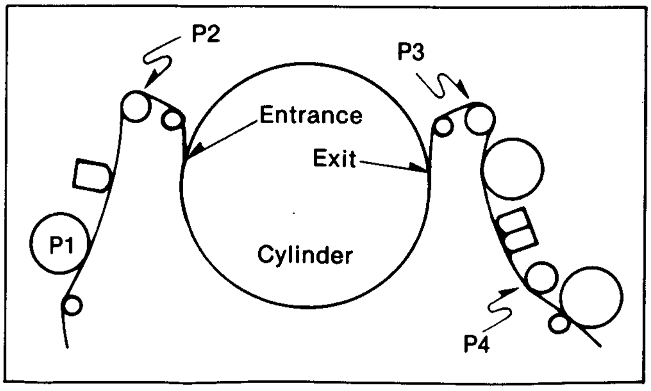


Figure M17 Loading Posts

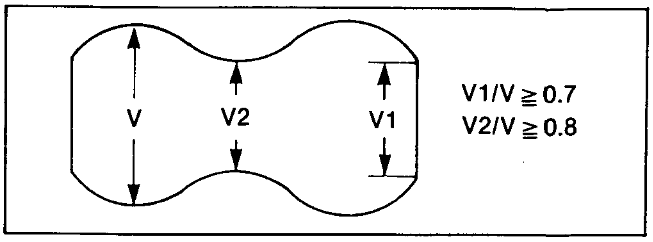


Figure M18 Spec.of Envelope

10. Turn the Tracking VR from end to end again and then back to the detent (Fix) position. At the detent position, the VIDEO FM envelope waveform should be maximum. If it is not maximum then "ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION" is necessary. (Refer to "FINE ADJUSTMENT OF THE A/C HEAD HORIZONTAL POSITION".)

3–2–5. Preliminary Confirmation of the A/C Head Height

*Note:
This procedure should be performed only when the A/C Head is replaced.

*Tools and Equipment Required:
Nut Driver (Purchase locally)

With the tape running, look at the lower edge of the control head and check if the lower edge of tape runs along the lower edge of the control head. If it doesn't, slightly turn the nut (A) behind the A/C Head (Figure M19) to either lower or raise the A/C head so that the tape runs along the lower edge of the control head. Turn the nut (A) clockwise to lower the head, and counterclockwise to raise it. (Figure M19).

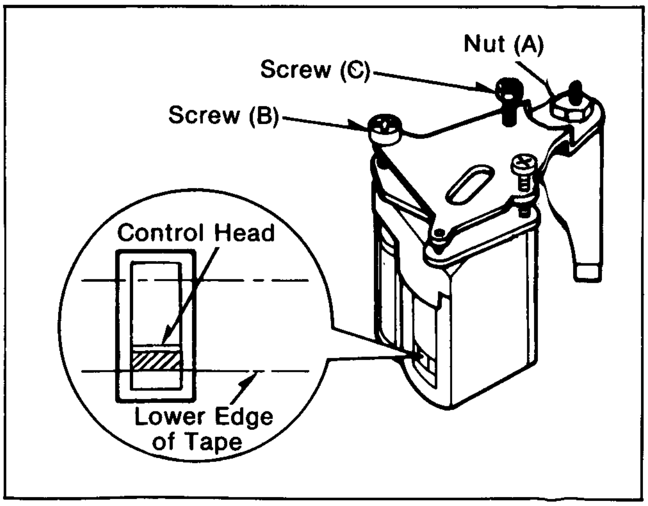


Figure M19 Confirmation of A/C Head Height

3-2-6. Adjustment of the A/C Head Height and Azimuth

*Note:
This procedure should be performed only when the A/C Head is replaced and posts heights are readjusted.

*Tools and Equipment Required:
Nut Driver (Purchase locally)
Alignment Tape..................VFM8180HMDH

1. Connect the scope to Audio Monitor out and set the Audio Select switch to NORMAL and Audio Monitor switch to CH2.
2. Play back the 2nd portion (Normal Audio 6KHz) of the alignment tape, VFM8180HMDH.
3. Adjust the screw (B) in figure M19 so that the output level becomes maximum.

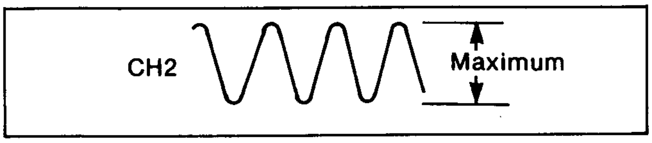


Figure M20 NORMAL AUDIO SIGNALS

4. Then adjust the nut (A) so that the CH2 envelope becomes maximum.

3-2-7. Coarse Adjustment of the A/C Head Horizontal Position

*Note:
This procedure should be performed only when the A/C head is replaced, and after performing the tape interchangeability adjustment.

*Tools and Equipment Required:
Alignment Tape..................VFM8180HMDH
H Position Adj. Fixture..........VFK0328

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Set the Audio Select SW to the NORM position and the Audio Monitor switch to CH2.
3. Connect the scope to TP5003 on the HEAD AMP section and scope CH2 to the Audio Monitor Output.
4. Play back 1st position (Monoscope and Normal Audio 3KHz) of the Alignment tape VFK8180HMDH.
5. Adjust A/C head horizontal position nut so that the phases of Audio drop out and RF envelope drop out become almost the same. (Figures M21 and M22)

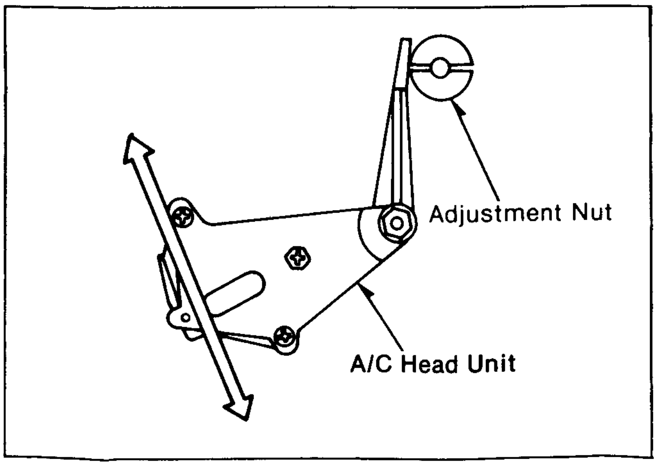


Figure M21 Coarse Adjustment of A/C Head

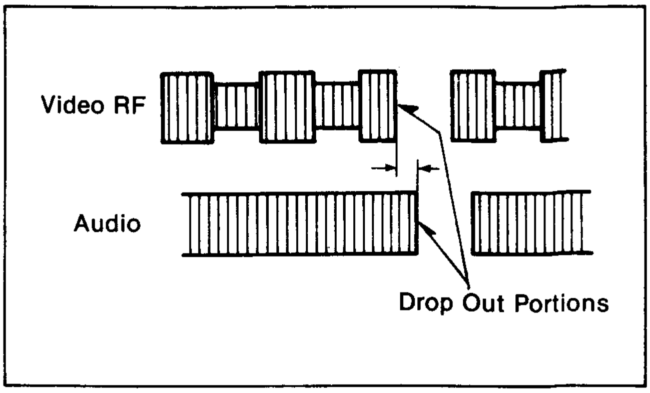


Figure M22 Horizontal Position Adjustment of A/C Head

3-2-8. Fine Adjustment of the A/C Head Horizontal Position (X-Value)

*Note:
When the A/C head is replaced, the coarse adjustment of the A/C head horizontal position is required before performing this fine adjustment.

*Tools and Equipment Required:
H.Position Adj. Driver...........VFK0328
Alignment Tape................VFM8180HMDH

1. Set the Tracking Control VR to the center detent (fixed) position.
2. Connect the scope CH1 to TP5003 on the HEAD AMP Section and scope CH2 to TP5004 on the same section as external trigger.
3. Play back 2nd position (Monoscope) of the Alignment tape, VFK8180HMDH.
4. Adjust the adjust nut in figure M21 so that the RF envelope output level becomes maximum.
5. Turn the Tracking VR from end to end and then back to the detent position.
Confirm that the FM envelope output level is maximized at the detent position.

4. OTHER MECHANICAL ADJUSTMENT PROCEDURES

4-1. CONFIRMATION OF BRAKE TORQUE

*Equipment Required:
Dial Torque Gauge...................VFK0133
Adaptor for Gauge...................VFK0134

1. Attach the adaptor to the torque gauge and place the deck in STOP mode.
2. Place the torque gauge on the reel table. The weight of gauge should not rest on the reel table.

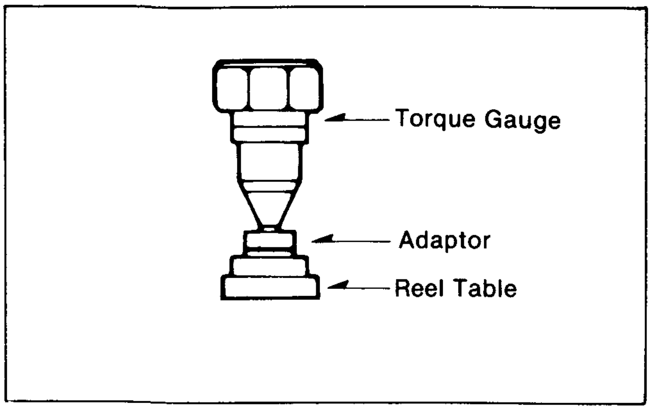
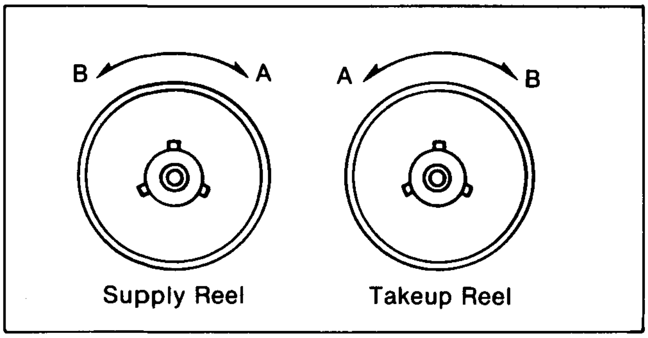


Figure M23 Confirmation of Brake Torque–(1)

3. Turn torque gauge in either direction indicated in Figure. M24 and read the gauge when the brake begins slipping.

*Notes:
1. If proper brake torque can not be obtained, clean the rotating surface of reel table with a soft cloth and recheck torque before replacing brake pad.



Reel	A	B
Takeup	more than 400g-cm	more than 120g-cm
Supply	more than 550g-cm	more than 40g-cm

Figure M24 Confirmation of Brake Torque–(2)

2. If proper brake torque can not be obtained after cleaning the rotating surface of reel table, replace the main brake units or reel tables.

4–2. CONFIRMATION OF BACK TENSION

*Equipment Required:
Back Tension Meter.......................VFK0132
VHS Cassette Tape (180 Minutes Tape)

*Specification: 25–30g

1. Pull the erase head in the direction indicated by the arrow and hold it by adhesive tape.
2. Play back the cassette tape from its beginning and wait until tape running has stabilized. (for approx. 10 to 20 seconds)
3. Insert tension meter in tape path and confirm reading. (Figure M25)

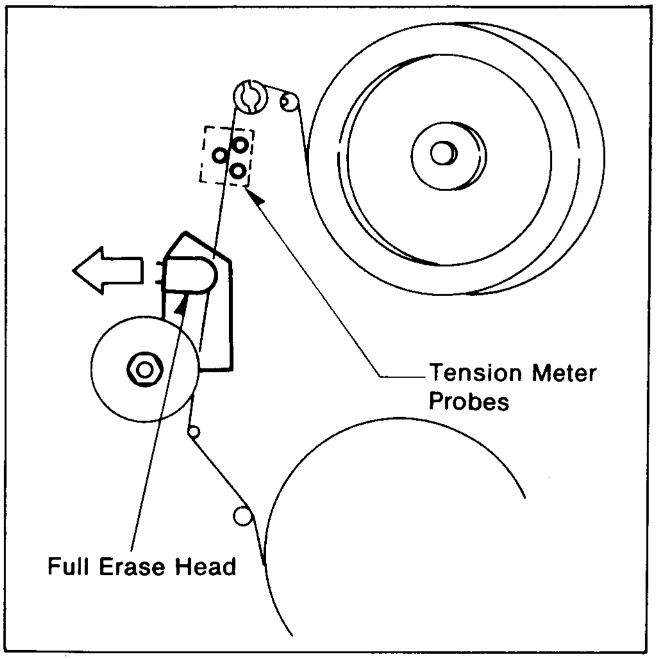


Figure M25 Confirmation of Back Tension

*Notes:
1. Make sure that the three probes of the meter are all in good contact with tape, but out of contact with any parts while measuring.
2. It is recommended to be measured three times as the tension meter is very sensitive.

4–3. HEIGHT ADJUSTMENT OF REEL TABLES

*Note:
Cut–out on Post Adjustment Plate is reference of reel table height and their height is measured based on this reference.

*Equipment Required:
Post Adjustment Plate................VFK0191
Reel Table Height Gauge..............VFK0190

*Specification: –0.15 –0mm

1. Place the post adjustment plate over the reels, and put the gauge on the plate. Set the gauge to zero "0" with the foot scraper of the gauge touching the cut–out portion of the plate. (Figure M26)

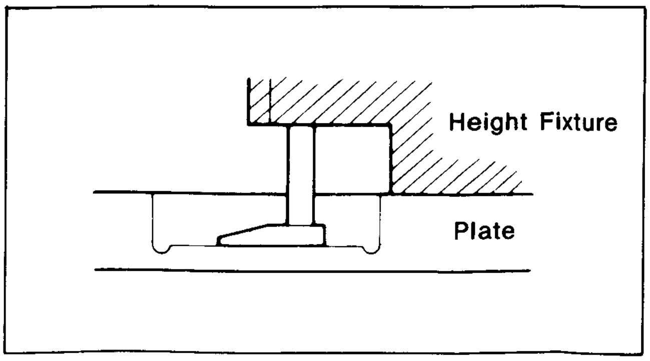


Figure M26 Height Adjustment of Reel Tables (1)

2. Then measure the top portion of reel table and confirm the difference just performed in former step. Do same for the other reel table. (Figure M27)

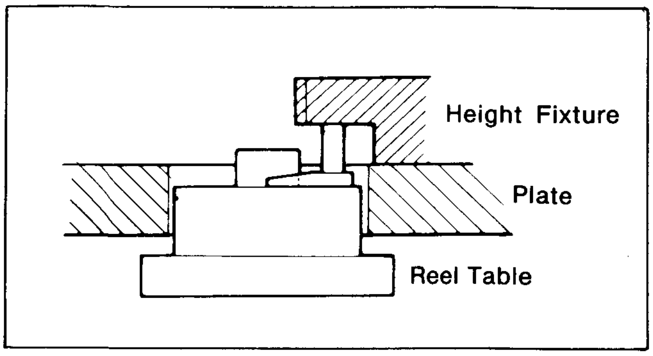


Figure M27 Height Adjustment of Reel Tables (2)

3. If a height difference in readings between the cut-out portion of plate and reel tables is not within 0~0.15mm (higher or lower),adjust the height of the reel to obtain specified height.
4. For adjustment, change the poly-slider washer located under the reel table.
   Poly-slider washers are available in thickness of 0.13mm, 0.25mm, and 0.5mm.

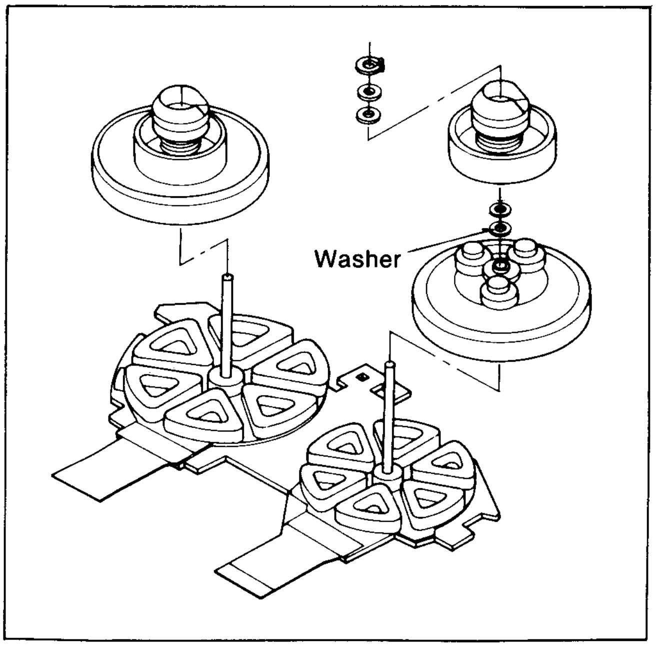


Figure M28 Height Adjustment of Reel Tablees (3)

*Notes:
When adjusting the height of the tables, the DD Reel Unit needs to be removed from the chassis. (Removal of the DD Reel Unit.)
Remove 6 screws and carefully lift it out. (Figure M29)

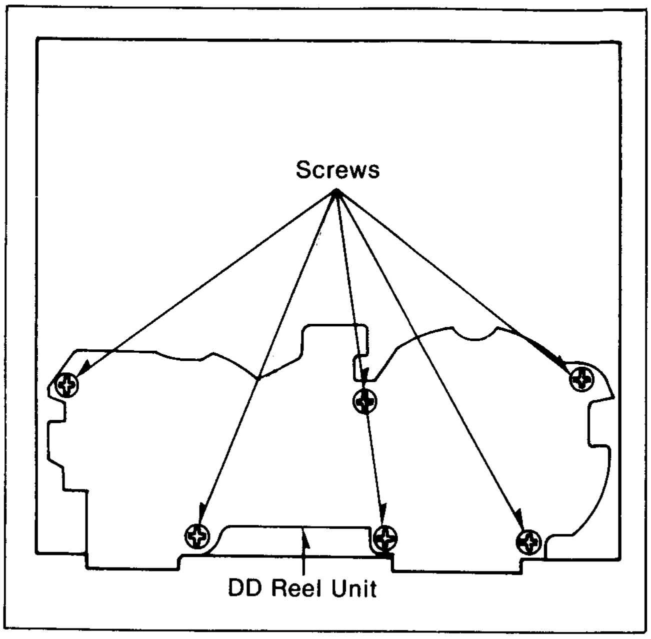


Figure M29 Bottom View of DD Reel Unit

Washer / Thickness	Part No.
0.13mm	XWGV3Z6G
0.25mm	XWGV3Y6G
0.5mm	XWGV3D6G

Figure M30

4-4. ADJUSTMENT OF F.G. HEAD GAP

*Specification: 0.18(+/−0.02)mm

1. Slightly loosen the 2 screws.
2. Hold the F.G Head Unit with your fingers, and adjust the gap as specified.
3. After adjustment, tighten 2 screws. (Figure M31)

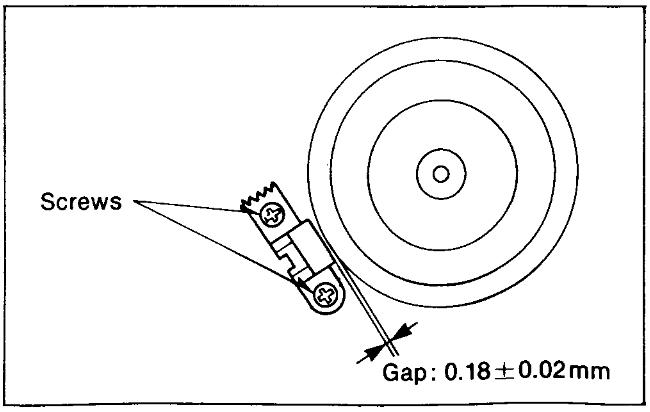


Figure M31 Adjustment of FG.Head Gap

*Note:
Do not scratch the F.G. Head or outside surface of the rotor.

4-5. ADJUSTMENT OF LEAF SWITCH

*Equipment Required:
Fine Adjustment Screwdriver...........VFK0330

*Specification: 0.9mm−1.3mm

1. Remove the DD Reel Unit from the chassis. Slightly loosen the screw (A) and insert the Fine Adjustment Screwdriver to the Hole (B).
2. By rotating the Fine Adjustment Screwdriver, adjust the leaf switch so that gap (C) is 0 and the gap (D) between the upper and lower plates of the leaf switch is 0.9mm to 1.3mm, and tighten screw (A).
3. Install the DD Reel Unit. (Figure M32)

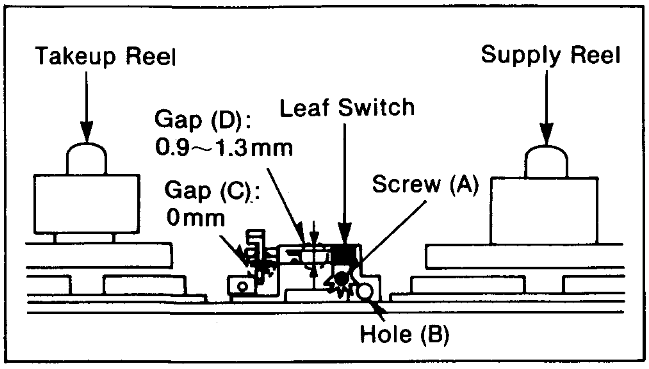


Figure M32 Adjustment of Leaf Switch

*Note:
After adjustment, confirm that the leaf switch turns On when the Cassette Up Unit is pressed down, and turns Off when the Cassette Up Unit is raised.

4-6. POSITION ADJUSTMENT OF RECORDING SAFETY SWITCH

*Equipment Required:
Cassette Holder Fixture..............VFK0188
Fine Adjustment Screwdriver..........VFK0330

1. Place the fixture in place over the reel tables.
2. Confirm Rec. Safety Switch position is just turned ON.
3. When Rec. Safety Switch position is not right, remove the fixture and loosen a screw (A).
4. Insert the fine adjustment screwdriver into the hole (B), and adjust the position. Then tighten the screw (A).
5. Reinstall the fixture and confirm again.(Figure M33)

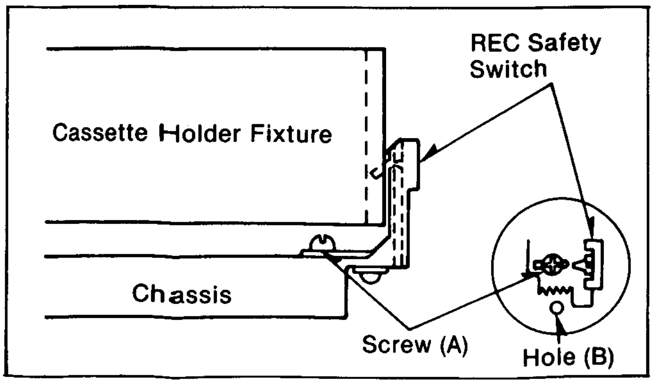


Figure M33 Position Adjustment of Recording Safety Switch−(1)

*Note:
Cassette with a safety tab is used, the Rec Safety switch Turns on and without a tab, it opens. (Figure M34)

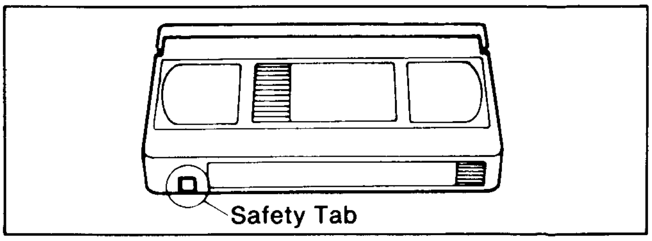


Figure M34 Position Adjustment of Recording Safety Switch−(2)

4-7. ASSEMBLY AND ADJUSTMENT OF GEARS AND LEVERS

<GENERAL CONDITION>

The mechanism of this model is mostly engaged to the System Control Circuit, through the mode select switch.
Therefore the relation between the mode select switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears rollers and so on.
If the adjustment of this item is performed improperly, the deck will be unloaded or compulsorily stopped.
And it may result in damage to mechanical or electrical parts.

4-7-1. Assembly and Adjustment OF Cam Gear

1. Install the cam gear so that the hole on the cam gear meets the hole on the chassis and then temporarily install the retaining ring in figure M35.

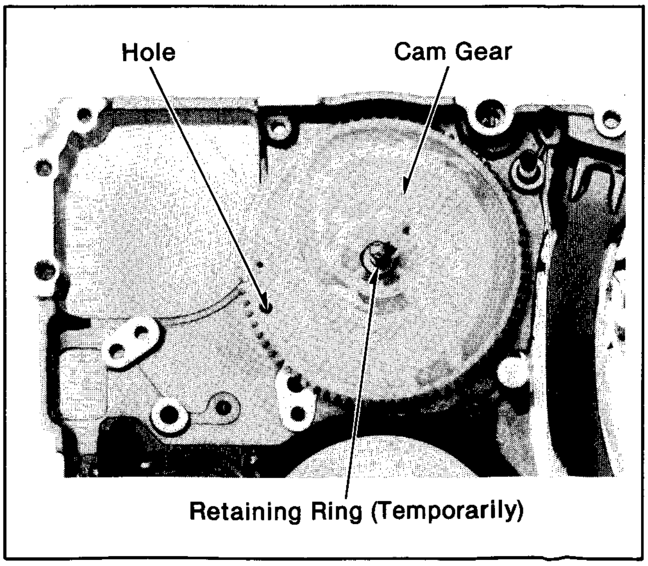


Figure M35

2. Set the deck up side down and put the projection of Main Lod into the hole of Brake Arm. (portion A). At the same time, put the projection (B) of Brake Arm on the groove of Cam Gear.
   Then install the retaining ring as shown in figure M36.

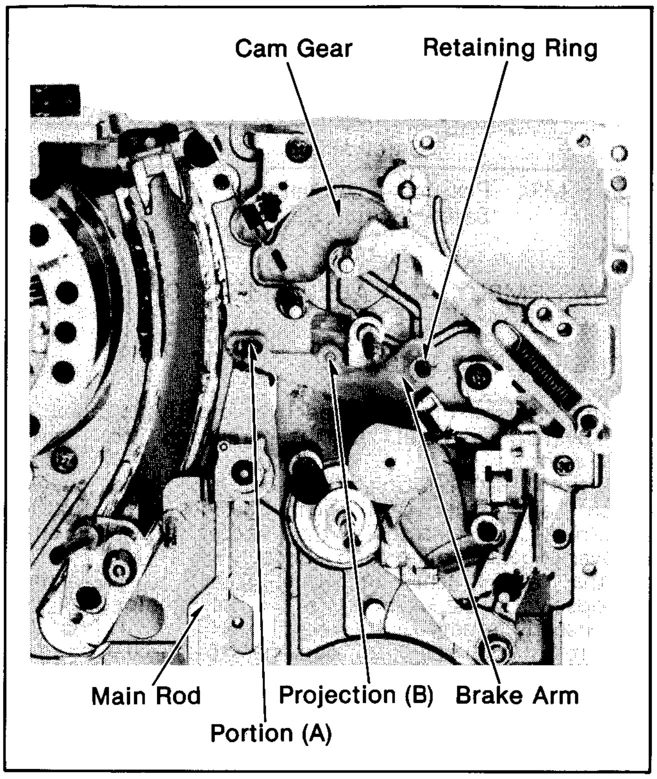

Cam Gear
Retaining Ring
Main Rod
Projection (B)
Brake Arm
Portion (A)

Figure M36

3. Next, install the washer and sub arm adjust lever, and put the projection (C) of sub Arm Adjust Lever on the groove of Cam Gear with care for the reaf switch. Then install the retaining ring as shown in figure M37.

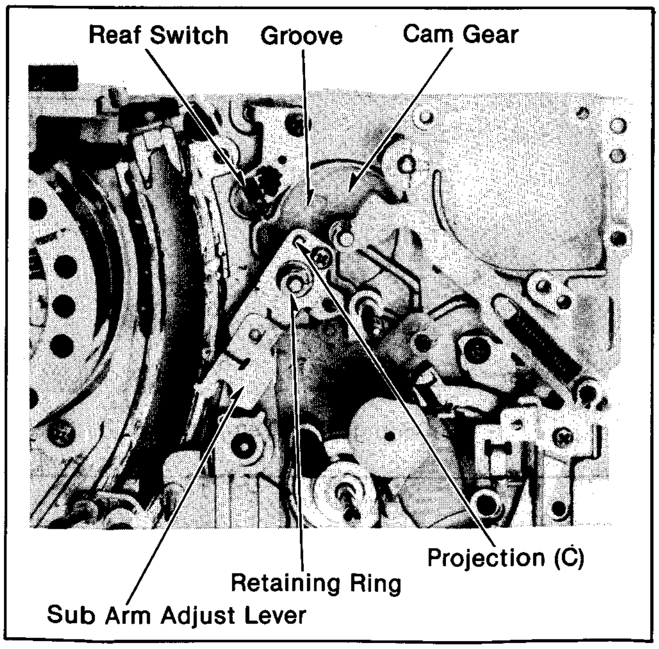

Reaf Switch
Groove
Cam Gear
Projection (C)
Retaining Ring
Sub Arm Adjust Lever

Figure M37

Note:
Pay attention that the washer is still under the sub arm adjust lever.

4-7-2. Assembly and Adjustment of Mode Select SW

1. Make sure the position in which the hole on the Cam Gear meets the hole on the chassis as shown in Figure M35 before performing this section.
2. Rotate the rotary switch gear. Confirm that the lines match between the mode select switch and the rotary switch, and that the delta hole (D) on the rotary switch gear aligns with the projection (E) on the Cam Gear.
   Then install the 2 screws (F) as shown in Figure M38.

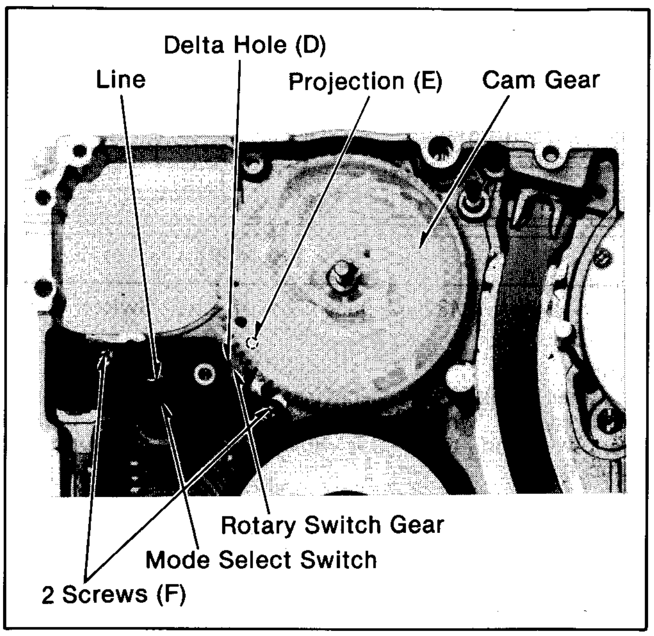

Delta Hole (D)
Line
Projection (E)
Cam Gear
Rotary Switch Gear
Mode Select Switch
2 Screws (F)

Figure M38

3. Set the deck up side down, install the loading motor with 2 screws (G) as shown in figure M39.

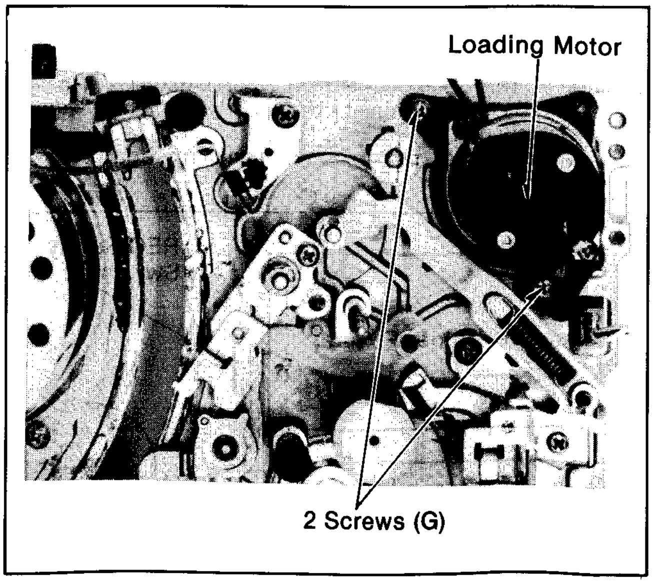

Loading Motor
2 Screws (G)

Figure M39

4–7–3. Assembly and Adjustment of Loading Drive Gear Unit and Loading Arm Unit

1. Perform the assembly after making sure the mechanism position is as described in previous items 4–7–1 and 4–7–2.
2. Set deck up side down and remove the washer on the Cam Gear.
3. Ensure that the loading post units are in the fully unloaded condition.

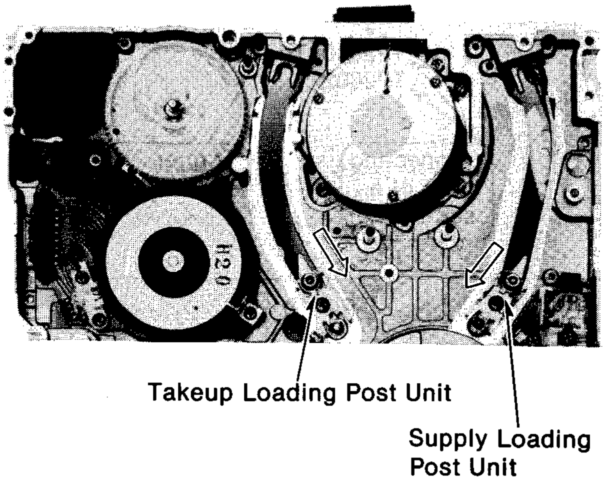

Takeup Loading Post Unit
Supply Loading Post Unit
H20

Figure M40

4. Install the supply and take–up loading arm units on the loading post units.
5. Install the loading Drive Gear unit so as to put the projection (H) of the Loading Drive Gear unit into the groove of the Cam Gear.
6. Next, install the 3 washers (I) and 3 retaining rings (J) as shown in Figure M41.

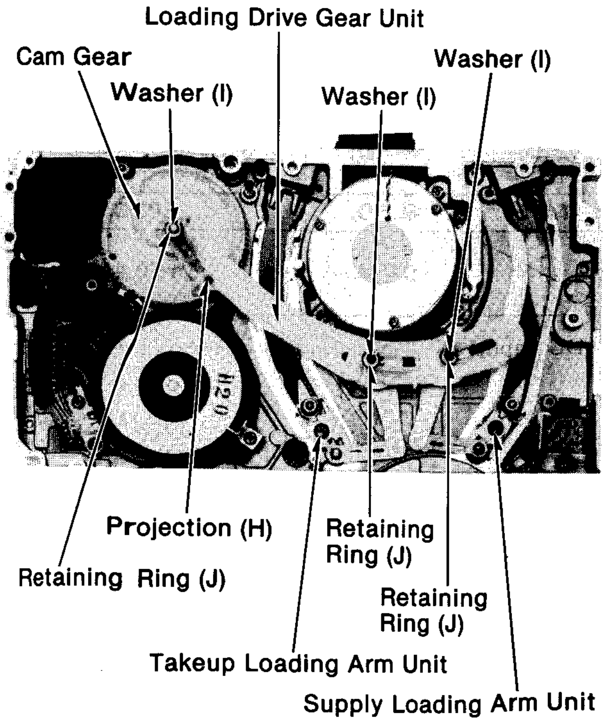

Loading Drive Gear Unit
Cam Gear
Washer (I)
Washer (I)
Washer (I)
H20
Projection (H)
Retaining Ring (J)
Retaining Ring (J)
Retaining Ring (J)
Takeup Loading Arm Unit
Supply Loading Arm Unit

Figure M41

ELECTRICAL ADJUSTMENT PROCEDURES

This section provides complete electrical adjustment procedures which may be required for electronic circuits of S-VHS Video Cassette recorders.

1. TEST AND SERVICE EQUIPMENT

To perform the electrical adjustments completely, following equipments are required.

1. VTVM(Vacuum Tube Volt Meter) or DVM Digital Volt Meter)
   Voltage Range: 0.001 to 50V
2. Dual-Trace Oscilloscope
   Voltage Range: 0.005 to 50V/div
   Frequency Range: DC to 20MHz
   Probes: 10 : 1
3. Frequency Counter
   Frequency Range : 0 to 10MHz
4. Signal Generator (Sinewave)
   Frequency Range : 0 to 10MHz
5. Video Sweep Generator
   Frequency Range : 0 to 10MHz
6. Colour Monitor TV
7. Plastic Tip Driver
8. DC Power Supply
9. Video Signal Generator
10. VHS Alignment Tape (VFM8180HMDH)

2. ADJUSTMENT PROCEDURES

2-1. HOW TO READ THE ADJUSTMENT PROCEDURES

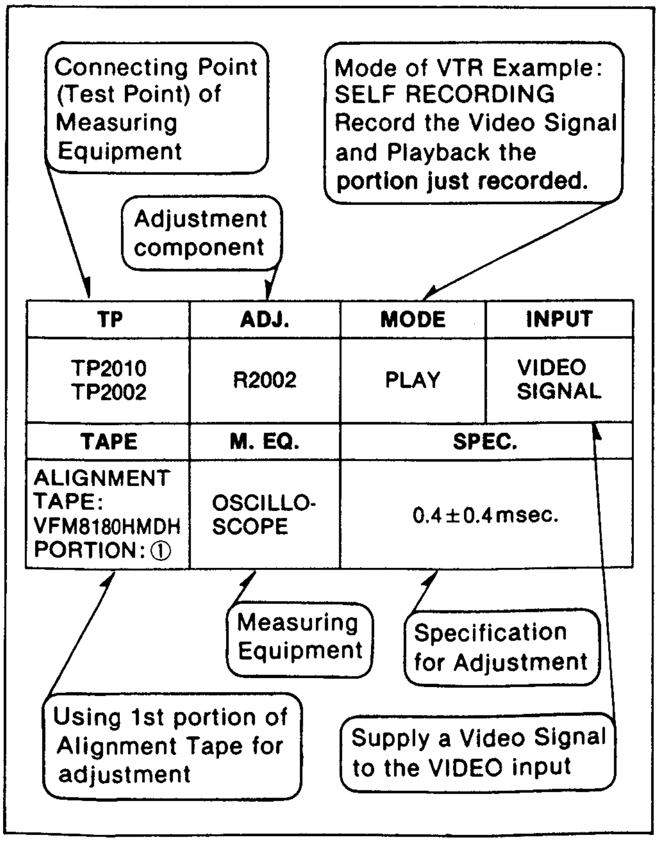

Connecting Point (Test Point) of Measuring Equipment
Mode of VTR Example: SELF RECORDING Record the Video Signal and Playback the portion just recorded.
Adjustment component
TP
ADJ.
MODE
INPUT
TP2010 TP2002
R2002
PLAY
VIDEO SIGNAL
TAPE
M. EQ.
SPEC.
ALIGNMENT TAPE: VFM8180HMDH PORTION: ①
OSCILLO-SCOPE
0.4±0.4msec.
Measuring Equipment
Specification for Adjustment
Using 1st portion of Alignment Tape for adjustment
Supply a Video Signal to the VIDEO input

Figure E1

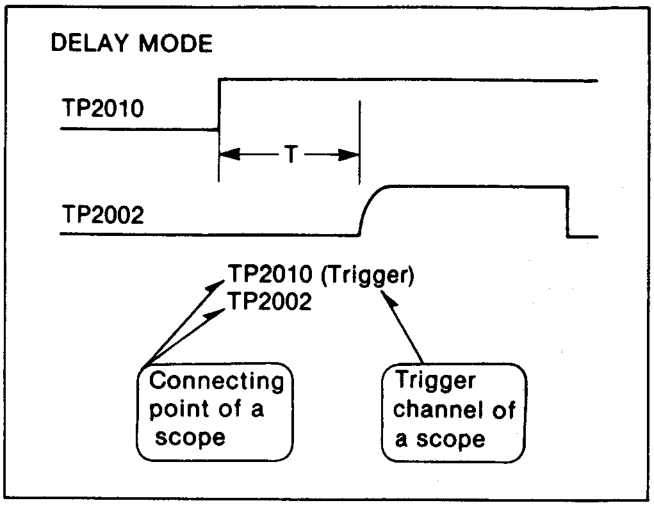

DELAY MODE
TP2010
T
TP2002
TP2010 (Trigger)
TP2002
Connecting point of a scope
Trigger channel of a scope

Figure E2

Note1:
When colour bar signal is needed, Please use Colour Bar signal fed out from WV-F70 (CAMERA) which is well-adjusted or AG-S745 (VTR ADAPTER) connected to signal generator.

Note2:
When 2-5-13 S-VHS PLAYBACK FREQUENCY RESPONSE ADJUSTMENT and/or 2-5-14 VHS PLAYBACK FREQUENCY RESPONSE ADJUSTMENT is adjusted, AG-S745 (VTR ADAPTER) should be used for connecting with sweep generator.

2-2. POWER SUPPLY SECTION

2-2-1. +5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1001	VR1001	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	D.V.M.	5.1±0.1[V]	

1. DC input voltage should be 12+/-0.3V.

2-2-2. +9V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1002	VR1002	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	D.V.M.	9.3±0.1[V]	

1. This adjustment should be performed after completion of 2-2-1. +5V ADJUSTMENT.

2–2–3. AV +5V ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP1003	VR1003	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	D.V.M.	5.2±0.05[V]	

1. This adjustment should be performed after completion of 2–2–1. +5V ADJUSTMENT.

2–3. SERVO SECTION

2–3–1. PG SHIFTER ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2004 TP3508	VR2001	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ②	OSCILLO-SCOPE	T1=6.5H±0.5H	

1. Set the triggering slope of scope to "–" side, and expand the V sync portion of the signal.
2. Adjust VR2001 so that the falling edge of switching pulse becomes 6.5H +/– 0.5H before the V sync portion. (Figure E3)

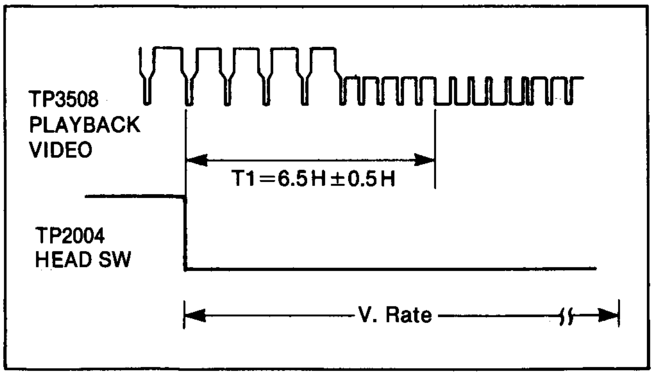


Figure E3

2–3–2. TRACKING FIX ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP2004 TP2003	VR2002	PLAY	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK	OSCILLO-SCOPE	T=0.5±0.5msec.	

1. Adjust the Tracking VR on the upper panel to the centre fix position.

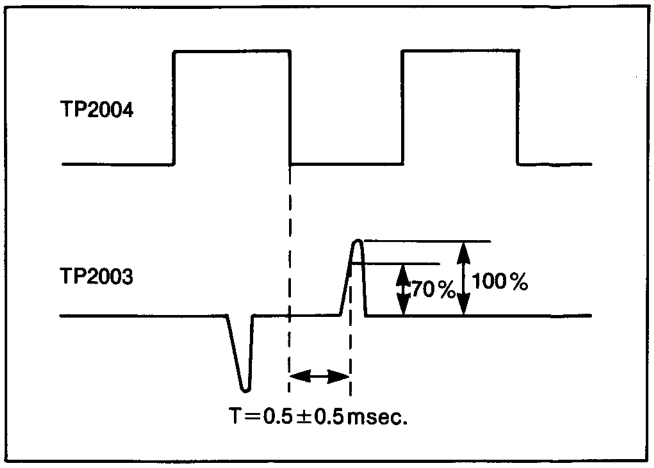


Figure E4

2–4. DISPLAY SECTION

2–4–1. AUDIO LEVEL METER ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO LEVEL METER (DISPLAY)	VR6903 (CH1) VR6902 (CH2)	STOP	1kHz, –6dBm AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	V.T.V.M.	0dB	

1. Supply 1KHz, –6dBm audio signal to CH1/CH2 AUDIO IN.
2. Connect VTVM to Audio MONITOR OUT.
3. Set AUDIO MONITOR switch on the top panel to CH1 and SW4301 and SW4302 (INPUT SELECTION SWITCH) on the Audio Display C.B.A. to LINE position.
4. Set AUDIO SELECT switch to NORMAL position and adjust AUDIO LEVEL VR CH1 (SW4011) on the side panel so that the output level of AUDIO MONITOR OUT is –8dBV +/– 0.1dBV.
5. Adjust VR6903 (CH1) so that the AUDIO LEVEL METER (CH1) shows 0dB.
6. Change positions of AUDIO MONITOR switch to CH2.
7. Adjust AUDIO LEVEL VR CH2 (SW4012) so that the output level of AUDIO MONITOR OUT is –8dBV +/– 0.1dBV.
8. Adjust VR6902 (CH2) so that the AUDIO LEEL METER (CH2) shows 0dB.

2-4-2. UNDER CUT VOLTAGE ADJUSTMENT

TP	ADJ.	MODE	INPUT
BATTERY INDICATOR (DISPLAY)	VR6901	STOP	
TAPE	**M. EQ.**	**SPEC.**	
	DC POWER SUPPLY	11.5±0.05V	

1. Supply DC voltage which is 11.5 +/− 0.05V at TP6904 from DC IN.
2. Adjust VR6901 to the point right before the

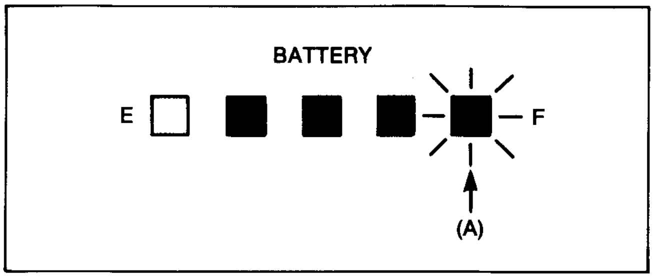


Figure E5

2-5. VIDEO SECTION

2-5-1. AGC LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3001	VR3014	STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	2.0±0.1Vp-p	

1. Adjust VR3014 so that the output level at TP3001 is 2.0 +/− 0.1Vp-p.

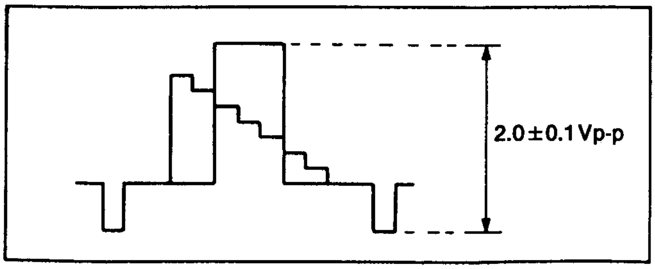


Figure E6

2-5-2. EE LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT (75 ohm terminated)	VR3015 VR3515	STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	Y=1.0±0.02Vp-p CYAN=0.65±0.02Vp-p	

1. Adjust VR3015 so that the luminance level at VIDEO OUT is 1.0 +/− 0.02Vp-p.
2. Adjust VR3515 so that the cyan level at VIDEO OUT is 0.65 +/− 0.02Vp-p.

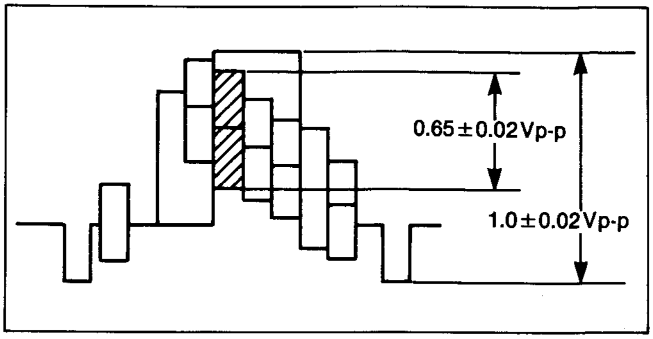


Figure E7

2-5-3. SUB EMPHASIS LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3503	VR3517	S-VHS STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	400±5mVp-p	

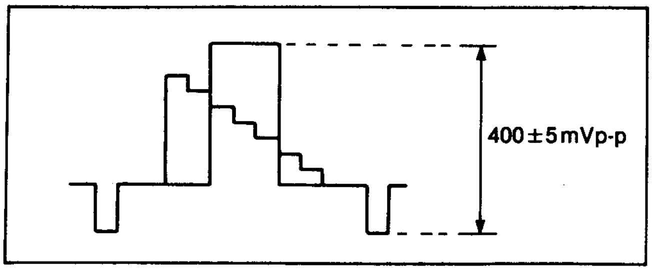


Figure E8

2-5-4. VITC LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3508	VR3007	STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	100% WHITE: VITC=100 : 80	

1. Equip the AG-F745 with AG-7450.

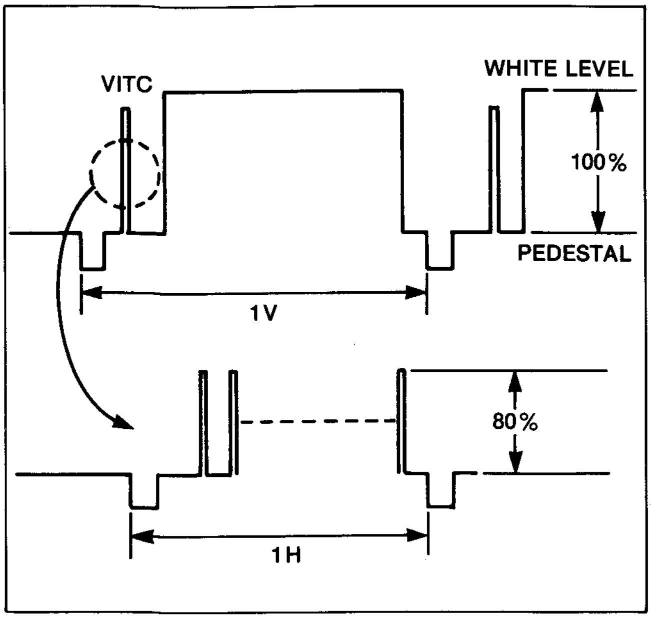


Figure E9

2-5-5. S-VHS SUB EMPHASIS LIM BAL ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3509	VR3506	S-VHS STOP	NO INPUT
TAPE	**M. EQ.**	**SPEC.**	
	D.V.M.	3.48±0.03V	

2-5-6. S-VHS DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
DL3503-1	VR3501 VR3502	S-VHS REC/PLAY	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	OSCILLO-SCOPE	SEE BELOW	

1. This adjustment should be performed after completion of "AGC LEVEL ADJUSTMENT" and "SUB EMPHASIS LEVEL ADJUSTMENT".
2. Turn VR3504 and VR3503 to the point where the proper signal is reproduced.
3. Connect a jumper wire between TP3510 and TP3504.
4. Connect the SCOPE to pin 1 of DL3503.
5. Supply a 5.4MHz sinewave signal at −40dB (0.028Vp−p) to TP3510 through 0.01UF capacitor. Set the frequency precisely with a frequency counter.
6. Adjust VR3501 so that the beat on the sync tip portion of the signal becomes minimum as shown in Figure E10.
7. Next, supply a 7.0MHz sinewave signal at −40dB (0.028Vp−p) to TP3510 through a 0.01uF CAPACITOR. Set the frequency precisely with a frequency counter.
8. Adjust VR3502 so that the beat on the white peak portion of the signal becomes minimum as shown in Figure E10.

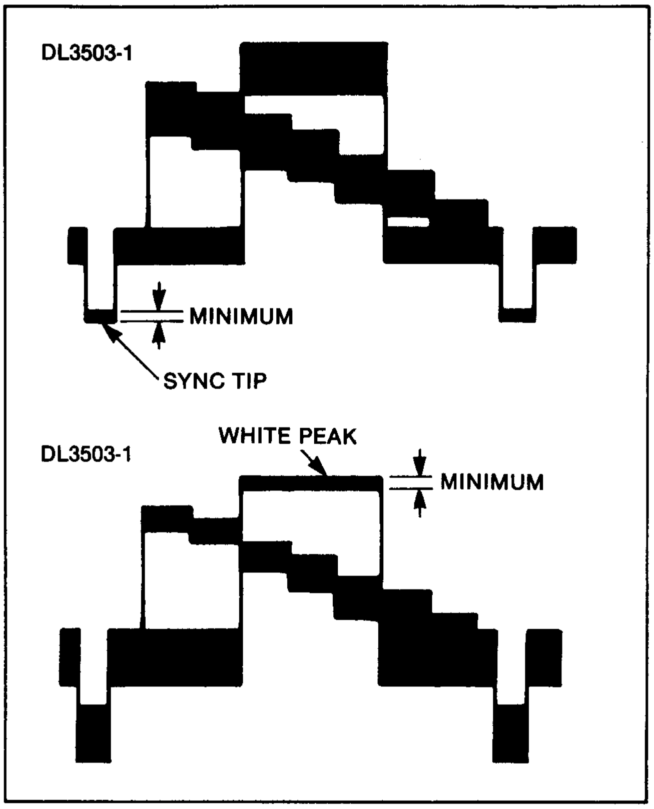


Figure E10

2-5-7. S-VHS WHITE/DARK CLIP ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3502	VR3504 VR3503	S-VHS STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	WC:200±5% DC:70±5%	

1. This adjustment should be performed after completion of " DEVIATION ADJUSTMENT".
2. Turn VR3504 and VR3503 to the point where the proper signal is reproduced.

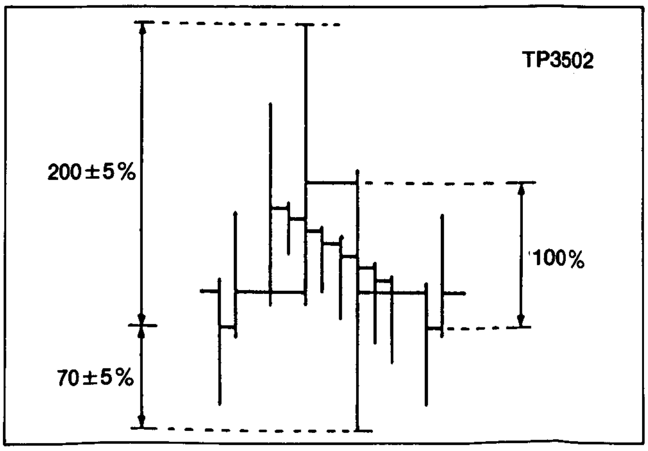


Figure E11

2–5–8. YNR BALANCE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3002	VR3001	S-VHS STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	OSCILLO-SCOPE	SEE BELOW	

1. Adjust VR3001 so that the waveform at TP3002 is cancelled.

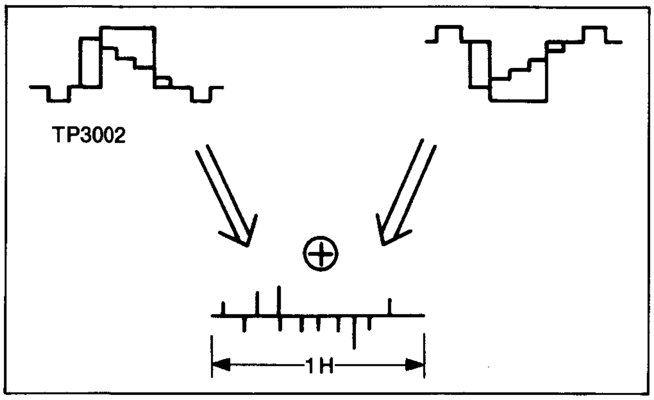


Figure E12

2–5–9. VCO ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3007	VR3011	S-VHS PLAY	NO INPUT
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	FREQUENCY COUNTER	627±3kHz	

1. Connect a jumper wire between TP3008 and TP3014.

2–5–10. PILOT BURST LEVEL & PHASE ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3008 C3075	S-VHS STOP	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
	VECTOR-SCOPE OSCILLO-SCOPE	PHASE: 270±10 degrees LEVEL: 110%	

1. Connect the vectorscope to video out.
2. Set the deck in S–VHS mode.
3. Connect jumper wires between TP3009 and TP3014 and between TP3511 and TPG3501.
4. Connect 470ohm resistor between TP3010 and TP3512.
5. In case AGS745 is used, connect EXT SYNC and EXT SC from the signal generator to the vectorscope.
6. Adjust C3075 so that the phase of pilot burst is 270 +/– 10 degrees to U (Pb) axis.
7. Connect the oscillcope to video out.
8. Adjust VR3008 so that the level of pilot burst is 110% of the level of burst signal.

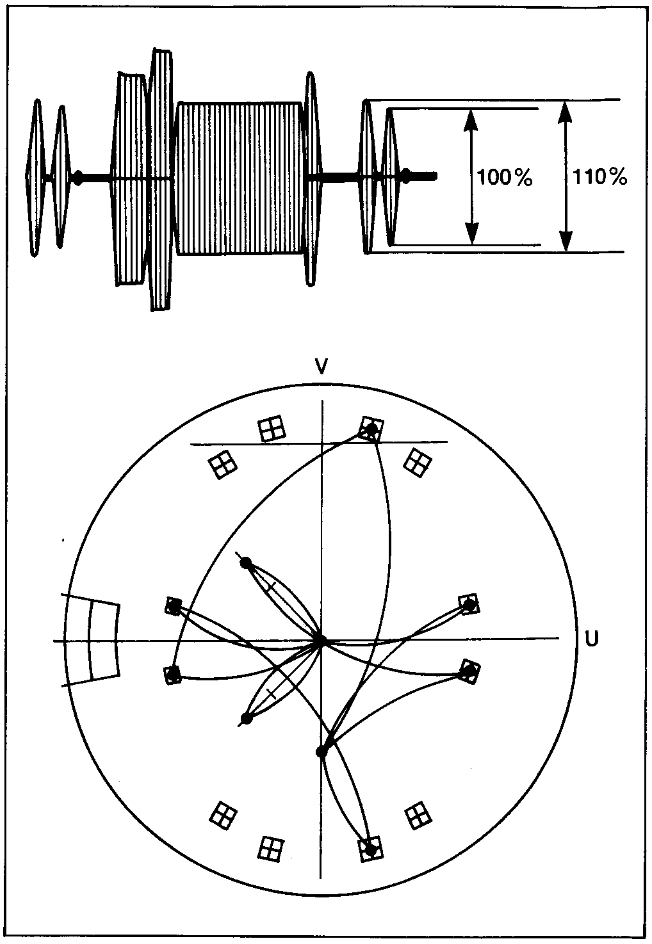


Figure E13

2–5–11. REC CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP5002 (HOT) TP5001 (GND)	VR3507 VR3004 VR3505	S-VHS REC → VHS REC	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	OSCILLO-SCOPE	Cyan=34±2mVp-p S-VHS Y=150±5mVp-p VHS Y=140±5mVp-p	

1. Place the deck in REC/PLAY mode with S–VHS mode.
2. Turn VR3505 to eliminate the Y recording current.
3. Adjust VR3004 so that the cyan level is 34+/–2mVp–p.
4. Adjust VR3505 so that the Y recording current at sync tip portion is 150+/–5mVp–p.
5. Change S–VHS switch to OFF in the record mode.
6. Adjust VR3507 so that the Y recording current at sync tip portion is 140+/–5mVp–p.

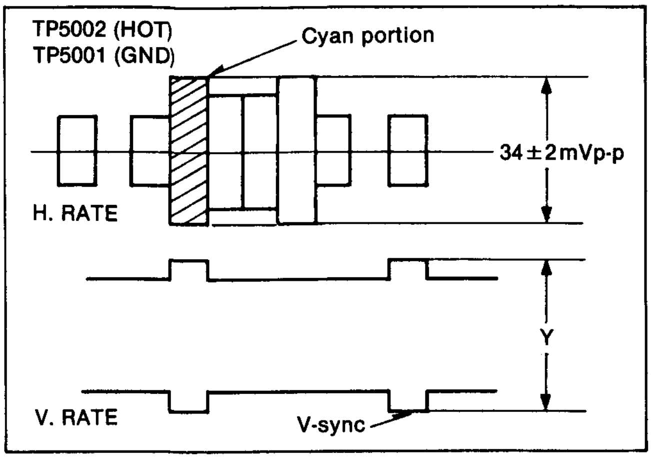


Figure E14

2-5-12. PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
VIDEO OUT	VR3508 VR3010 VR3003	PLAY	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	OSCILLO-SCOPE	Y=1.0±0.05Vp-p CYAN=0.6±0.05Vp-p	

1. Record colour bar signal and play back the recorded portion in VHS mode.
2. Adjust VR3010 so that video level at VIDEO OUT is 1.0 +/− 0.05Vp−p.
3. Record colour bar signal and play back the recorded portion in S−VHS mode.
4. Adjust VR3508 so that the video level at VIDEO OUT is 1.0 +/− 0.05Vp−p.
5. Adjust VR3003 so that the cyan level at VIDEO OUT is 0.6 +/− 0.05Vp−p.

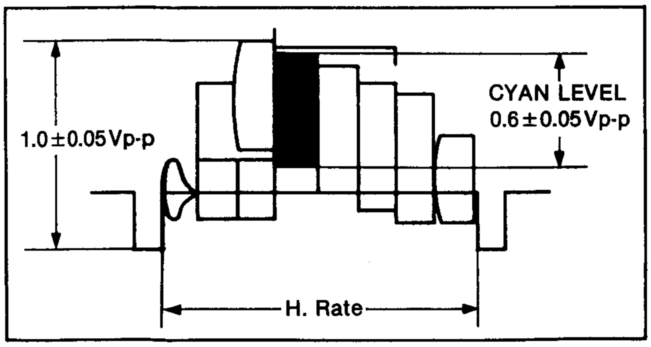


Figure E15

2-5-13. S−VHS PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3508	VR3516 VR3513 VR3514	S-VHS PLAY	SWEEP SIGNAL (B/W)
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	OSCILLO-SCOPE	0.1MHz : 4MHz= 1 : 0.65 600mVp-p	

1. Supply sweep signal as shown in figure E16 to VIDEO IN in AG−S745 which is equipped with AG−7450.
2. Turn DETAIL switch OFF on the top panel.
3. Record sweep signal in S−VHS mode and play back the just recorded portion.
4. Connect Video out to the monitor and turn VR3016 (picture VR) to the centre position and adjust VR3516 so that the picture can be seen on the monitor.
5. Adjust VR3513 and VR3514 so that the frequency response at TP3508 is shown in figure E17.
6. Next connect the scope to TP3504.
7. Adjust VR3516 so that the maximum level of the envelope is 600mVp−p.
8. Check the frequency response at TP3508. If it's not in spec, repeat items 5 to 7.

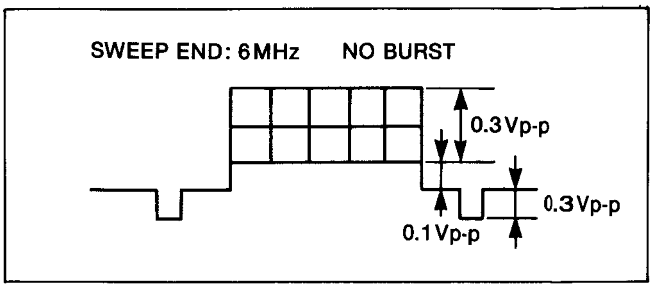


Figure E16

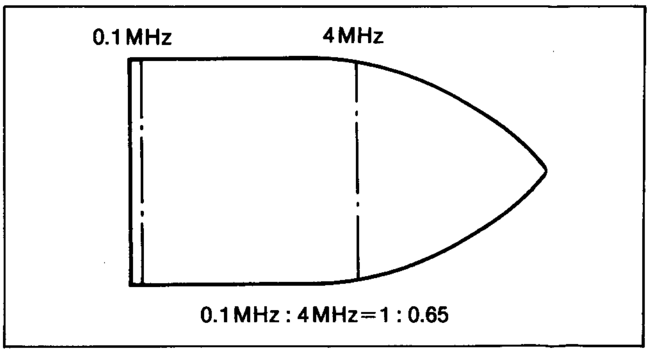


Figure E17

2-5-14. VHS PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3508	VR3510 VR3509 VR3511	VHS PLAY	SWEEP SIGNAL (B/W)
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK	OSCILLO-SCOPE	0.1MHz : 2MHz= 1 : 1 900mVp−p	

1. Supply sweep signal as shown in figure E18 to VIDEO IN in AG−S745 which is equipped with AG−7450.
2. Turn DETAIL switch off on the top panel.
3. Record sweep signal in VHS mode and play back the just recorded portion.
4. Connect Video out to the monitor and turn VR3016 (picture VR) to the centre position and adjust VR3509 so that the picture can be seen on the monitor.
5. Adjust VR3510 and VR3511 so that the frequency response at TP3508 is shown in figure E19.

6. Next connect the scope to TP3504.
7. Adjust VR3509 so that the maximum level of the envelope is 900mVp–p.
8. Check the frequency response at TP3508.
   If it's not spec., repeat items 5 to 7.

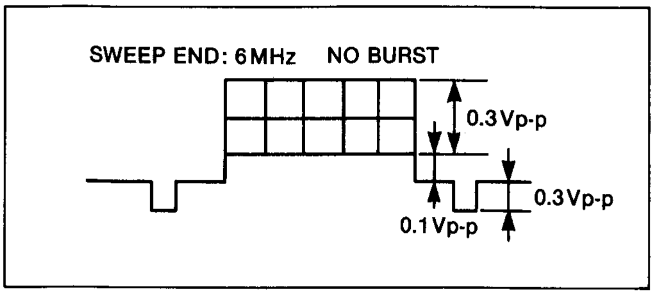

SWEEP END: 6MHz
NO BURST
0.3Vp-p
0.3Vp-p
0.1Vp-p

Figure E18

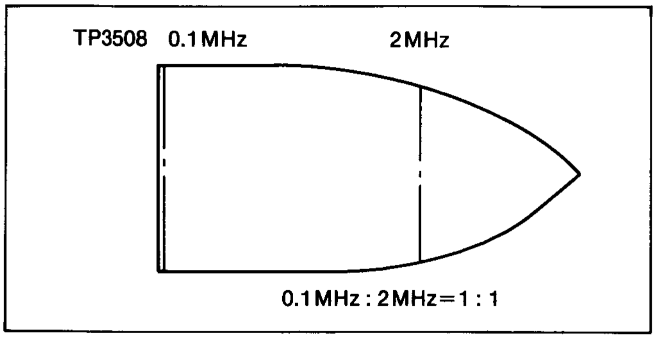

TP3508
0.1MHz
2MHz
0.1MHz : 2MHz=1 : 1

Figure E19

2–5–15. RECURSIVE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP3003	VR3005 VR3006	S-VHS PLAY	COLOUR BAR SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	OSCILLO-SCOPE	NOISE: MINIMUM	

1. Record colour bar signal and play back the recorded portion in S–VHS mode.
2. Turn DETAIL switch OFF.
3. Adjust VR3005 and VR3006 so that the noise component at TP3003 is minimized.

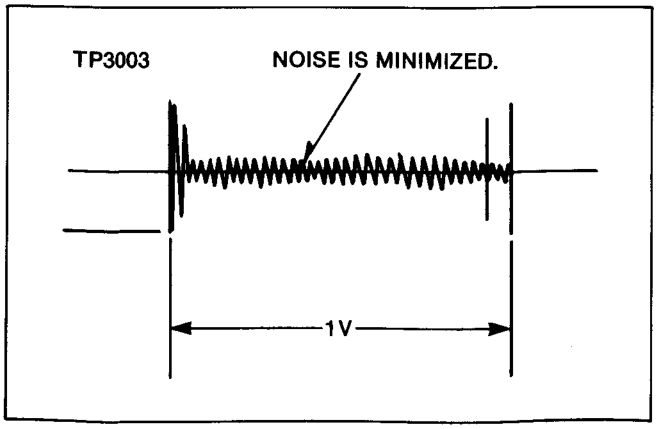

TP3003
NOISE IS MINIMIZED.
1V

Figure E20

2–6. NORMAL AUDIO SECTION

2–6–1. PLAYBACK GAIN ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4005 (CH1) TP4006 (CH2)	VR4003 (CH1) VR4006 (CH2)	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ③	OSCILLO-SCOPE	300mVp-p	

1. Play back 3rd portion of the alignment tape VFM8180HMDH.
2. Turn Dolby switch OFF.
3. Adjust VR4003 (VR4006) so that the level of 400Hz at TP4005 (TP4006) is 300mVp–p.

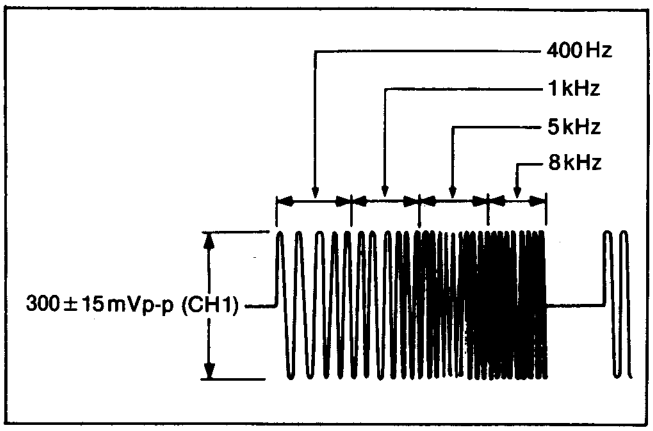

400Hz
1kHz
5kHz
8kHz
300±15mVp-p (CH1)

Figure E21

2–6–2. PLAYBACK FREQUENCY RESPONSE ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4005 (CH1) TP4006 (CH2)	VR4002 (CH1) VR4005 (CH2)	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ③	OSCILLO-SCOPE	400Hz AND 8kHz PORTIONS SHOULD BE SAME LEVEL (0±2dBv)	

1. Play back 3rd portion of the alignment tape VFM8180HMDH.
2. Turn Dolby switch OFF.

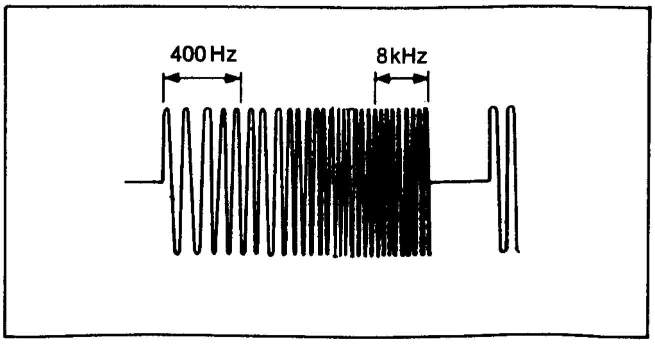


Figure E22

2–6–3. BIAS CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
A/C HEAD	VR4007 (CH1) VR4008 (CH2)	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VHS BLANK	V.T.V.M.	3.5±0.1mVrms	

1. Connect a V.T.V.M. to the A/C Head as shown below.
2. Adjust VR4007 (VR4008) so that V.T.V.M. shows 3.5+/−0.1mVrms.

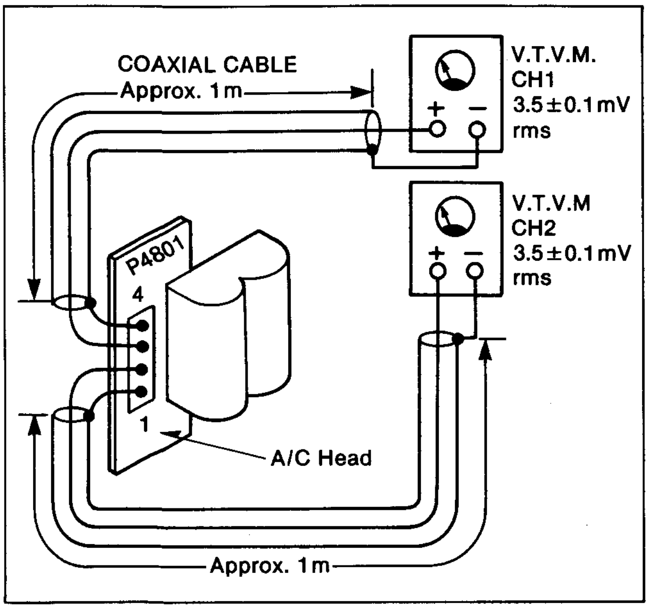


Figure E23

2–6–4. REC CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO MONITOR OUT	VR4001 (CH1) VR4004 (CH2)	S-VHS PLAY	1kHz, −6dBm AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
S-VHS BLANK	V.T.V.M.	E-E AND V-V LEVELS SHOULD BE SAME (0±0.5dB)	

1. Supply 1KHz −6dBm audio signal to AUDIO LINE CH1/CH2 IN.
2. Set the AUDIO SELECT switch to NORM and the AUDIO MONITOR switch to CH1.
3. Connect V.T.V.M. to AUDIO MONITOR OUT.
4. Read the level on V.T.V.M. in STOP mode (level 1).
5. Record the audio signal and play back the recorded portion in S–VHS mode.
6. Read the level on V.T.V.M. (level 2).
7. If the level 2 is not equal to level 1, adjust VR4001 and repeat item 5 and 6 until the levels (level 1 and 2) are well matched.
8. Next, set the AUDIO MONITOR switch to CH2 and do the same procedures for CH2 from item 4 to 7 using VR4004.

2–7. FM AUDIO SECTION

2–7–1. CARRIER FREQUENCY ADJUSTMENT

TP	ADJ.	MODE	INPUT
CH1: IC4502-3 CH2: IC4503-30	VR4505 (CH1) VR4506 (CH2)	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK	FREQUENCY COUNTER	CH1: 1.4MHz±10kHz CH2: 1.8MHz±10kHz	

2–7–2. DEVIATION ADJUSTMENT

TP	ADJ.	MODE	INPUT
VR4501 (A) VR4502 (A)	VR4501 (CH1) VR4502 (CH2)	REC/PLAY	1kHz, −6dBm AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK	OSCILLO-SCOPE	B=240mVp-p	

1. Supply 1KHz, −6dBm audio signal to AUDIO LINE CH1/CH2 IN.
2. Set the AUDIO SELECT switch to HD position.
3. Confirm that the CH1/CH2 AUDIO MONITOR OUTPUT is −8+/−1dBV.
4. Connect the scope to A portion of VR4501 for CH1 and A portion of VR4502 for CH2 as show in figure E24.
5. Adjust VR4501 (CH1) / VR4502 (CH2) so that the B level is 240mVp−p.

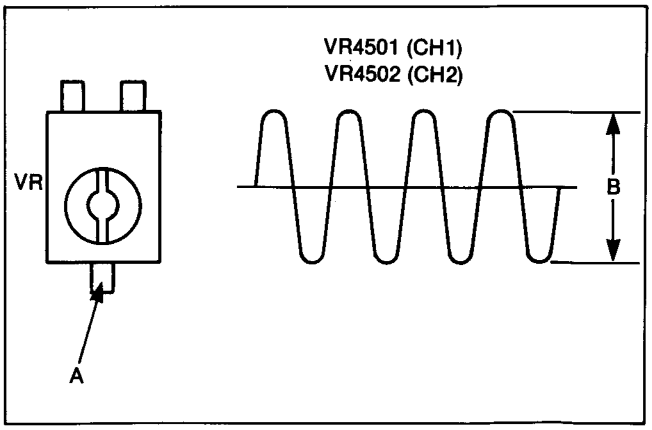


Figure E24

2-7-3. REC CURRENT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4510 (HOT) TP4509 (GND)	VR4509	REC/PLAY	
TAPE	**M. EQ.**	**SPEC.**	
BLANK	OSCILLO-SCOPE	A=240±10mVp-p	

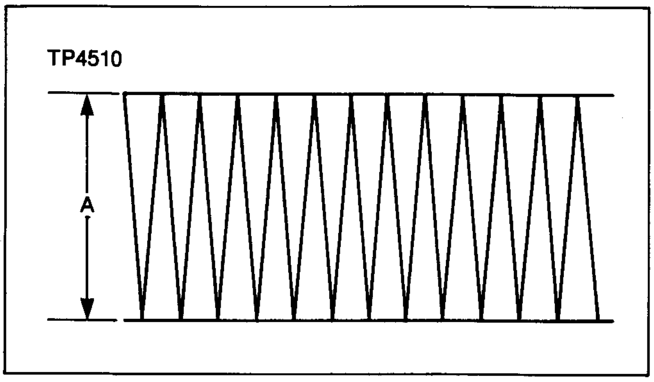


Figure E25

1. Set HD ON/OFF switch (SW4501) on the FM Audio C.B.A. ON.

2-7-4. HSW SHIFT ADJUSTMENT

TP	ADJ.	MODE	INPUT
TP4512	VR4508	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ②	OSCILLO-SCOPE	NO DROPOUT	

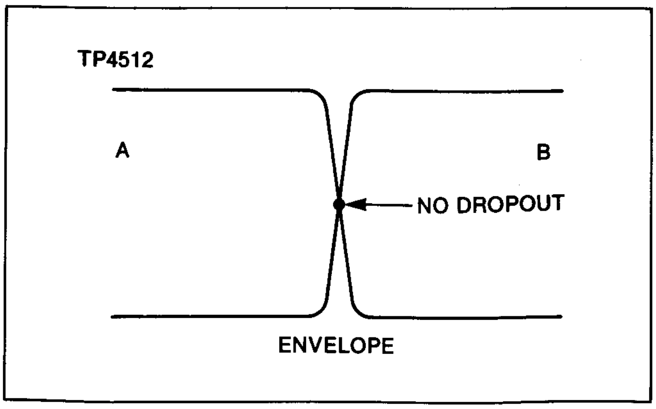


Figure E26

2-7-5. PLAYBACK LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
AUDIO MONITOR OUT	VR4503 (CH1) VR4504 (CH2)	PLAY	1kHz, −6dBm AUDIO SIGNAL
TAPE	**M. EQ.**	**SPEC.**	
BLANK	V.T.V.M.	E-E LEVEL ±0.5dB	

1. Supply 1KHz, −6dBm audio signal to AUDIO LINE CH1/CH2 IN.
2. Set the AUDIO SELECT switch to LINE and the AUDIO SELECT switch to Hi−Fi.
3. Confirm the AUDIO MON OUT level is −8+/−0.1dBV.
4. Record 1KHz, −6dBm audio signal and play back the recorded portion.
5. Adjust VR4503 (VR4504) to E−E output level

2-7-6. MUTING LEVEL ADJUSTMENT

TP	ADJ.	MODE	INPUT
FL4501-3 TP4506 (HS)	VR4507	PLAY	
TAPE	**M. EQ.**	**SPEC.**	
VFM8180HMDH PORTION: ②	OSCILLO-SCOPE	SEE FIGURE E27	

1. Set the Audio Select switch to Hi−Fi position.
2. Connect the scope CH1 to pin 3 of FL4501 and CH2 to TP4506 as a trigger.
3. Connect the Audio Monitor out to VTVM or Monitor.
4. Play back the 2nd portion of VFM8180HMDH.
5. Fix the Tracking VR to the maximum position of the envelope at pin 3 of FL4501.
6. Turn the Tracking VR slowly and find the point where Hi−Fi audio signal is muted at the Audio Monitor out.
7. Adjust VR4507 as shown in figure E27.

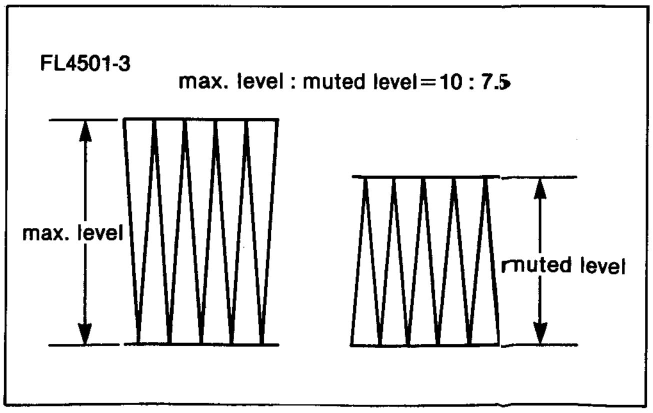
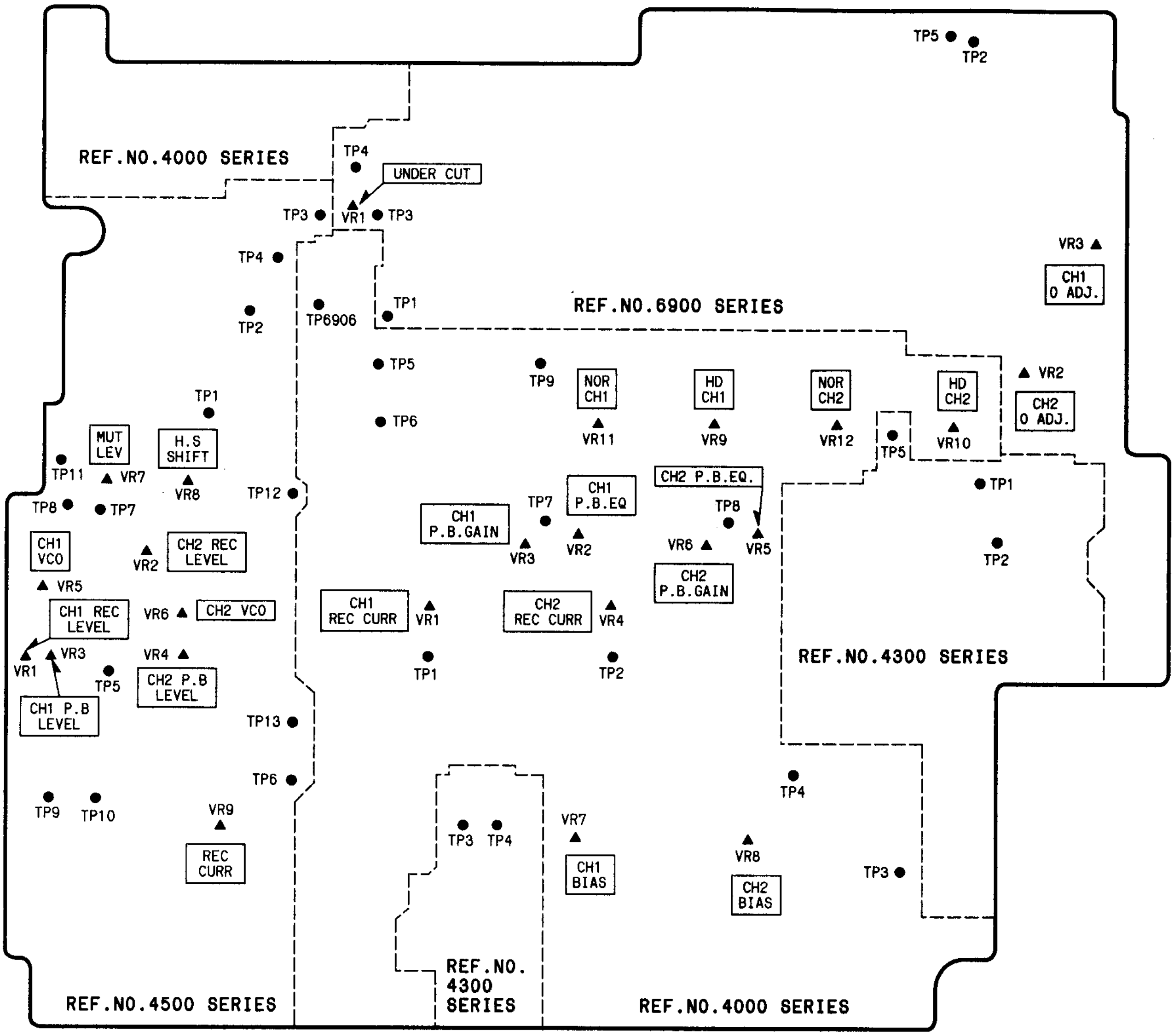


Figure E27

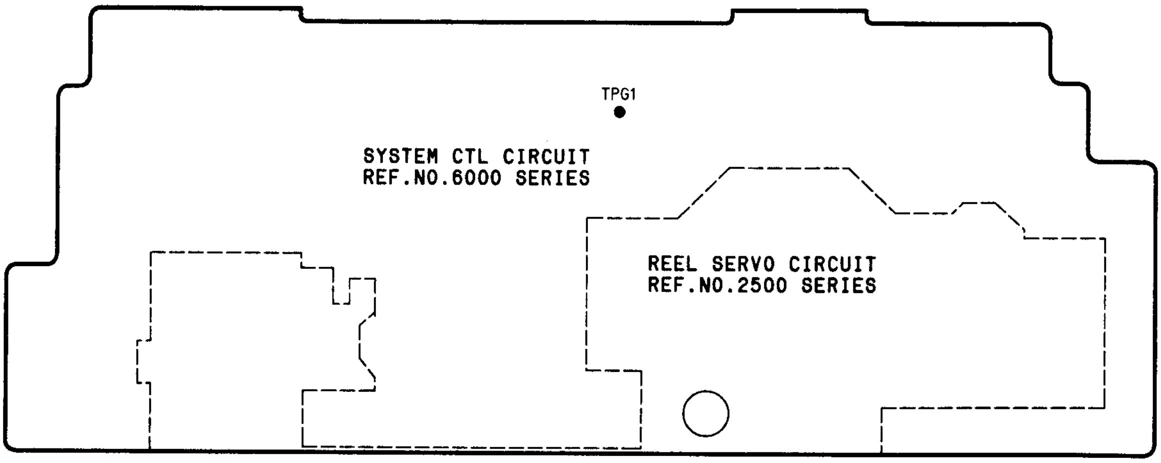
LOCATION OF TEST POINTS & CONTROLS

AUDIO & DISPLAY C.B.A. (VEP04244A)


TP5
TP2
REF.NO.4000 SERIES
TP4
UNDER CUT
TP3
VR1
TP3
VR3
CH1
0 ADJ.
TP4
TP1
TP6906
REF.NO.6900 SERIES
TP2
TP5
VR2
TP9
NOR
CH1
HD
CH1
NOR
CH2
HD
CH2
CH2
0 ADJ.
TP1
TP6
VR11
VR9
VR12
TP5
VR10
MUT
LEV
H.S
SHIFT
TP11
VR7
VR8
TP12
CH2 P.B.EQ.
TP1
TP8
TP7
CH1
P.B.EQ
TP7
CH1
P.B.GAIN
TP8
TP2
CH1
VCO
VR2
CH2 REC
LEVEL
VR3
VR2
VR6
VR5
CH2
P.B.GAIN
VR5
CH1 REC
LEVEL
VR6
CH2 VCO
CH1
REC CURR
VR1
CH2
REC CURR
VR4
VR3
VR1
VR4
TP5
CH2 P.B
LEVEL
TP1
TP2
REF.NO.4300 SERIES
CH1 P.B
LEVEL
TP13
TP6
TP4
TP9
TP10
VR9
TP3
TP4
VR7
VR8
REC
CURR
CH1
BIAS
TP3
CH2
BIAS
REF.NO.
4300
SERIES
REF.NO.4500 SERIES
REF.NO.4000 SERIES

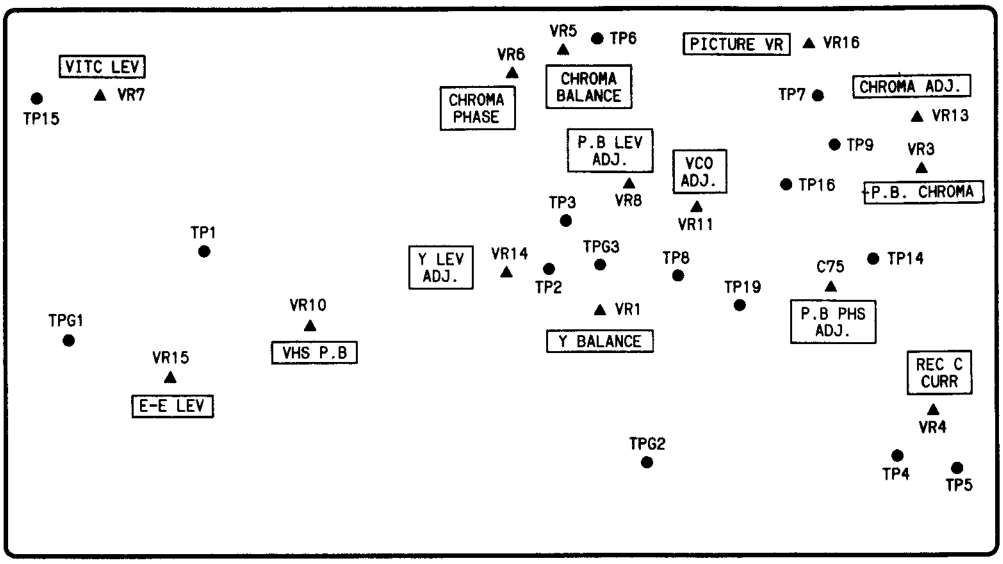
(COMPONENT SIDE)

SYSTEM CTL/REEL C.B.A. (VEP06534A)


TPG1
SYSTEM CTL CIRCUIT
REF.NO.6000 SERIES
REEL SERVO CIRCUIT
REF.NO.2500 SERIES

(COMPONENT SIDE)

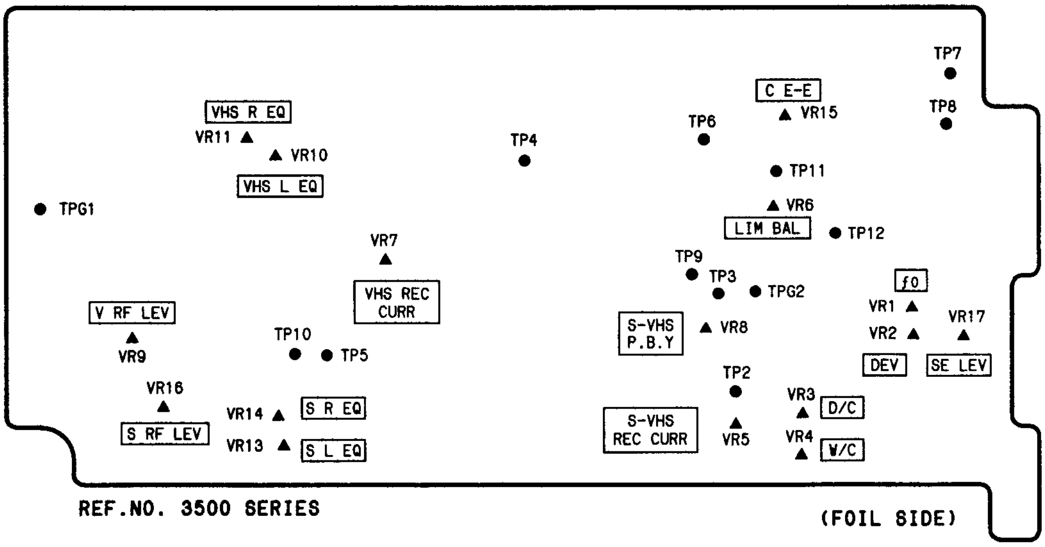
VIDEO(1) C.B.A. (VEP03580A)



VITC LEV
VR7
TP15
VR6
VR5
TP6
CHROMA PHASE
CHROMA BALANCE
PICTURE VR
VR16
TP7
CHROMA ADJ.
VR13
P.B LEV ADJ.
VCO ADJ.
TP9
VR3
TP16
P.B. CHROMA
VR8
TP3
VR11
TP1
Y LEV ADJ.
VR14
TP2
TPG3
TP8
C75
TP14
TP19
VR10
VR1
Y BALANCE
P.B PHS ADJ.
TPG1
VHS P.B
VR15
E-E LEV
REC C CURR
VR4
TPG2
TP4
TP5

REF.NO. 3000 SERIES **(FOIL SIDE)**

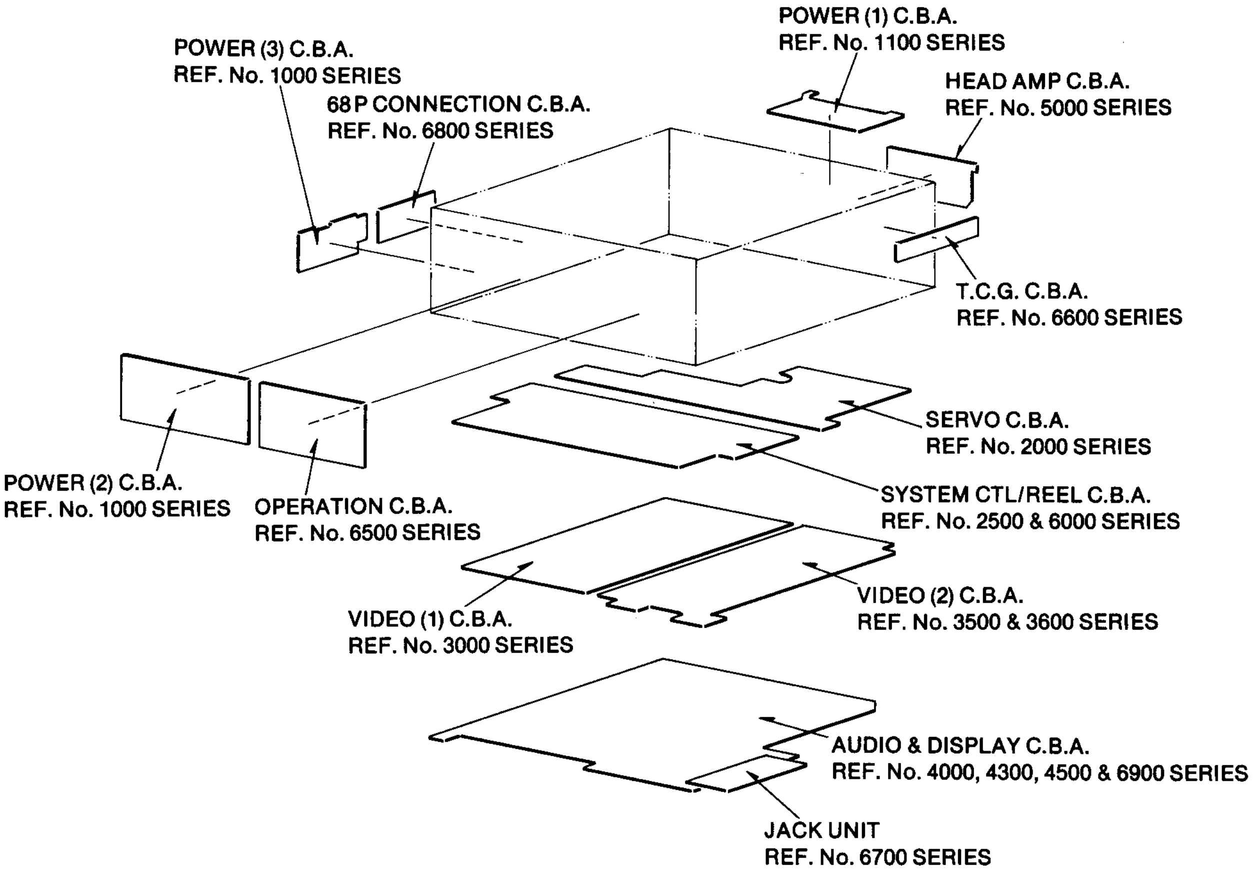
VIDEO(2) C.B.A. (VEP03581A)



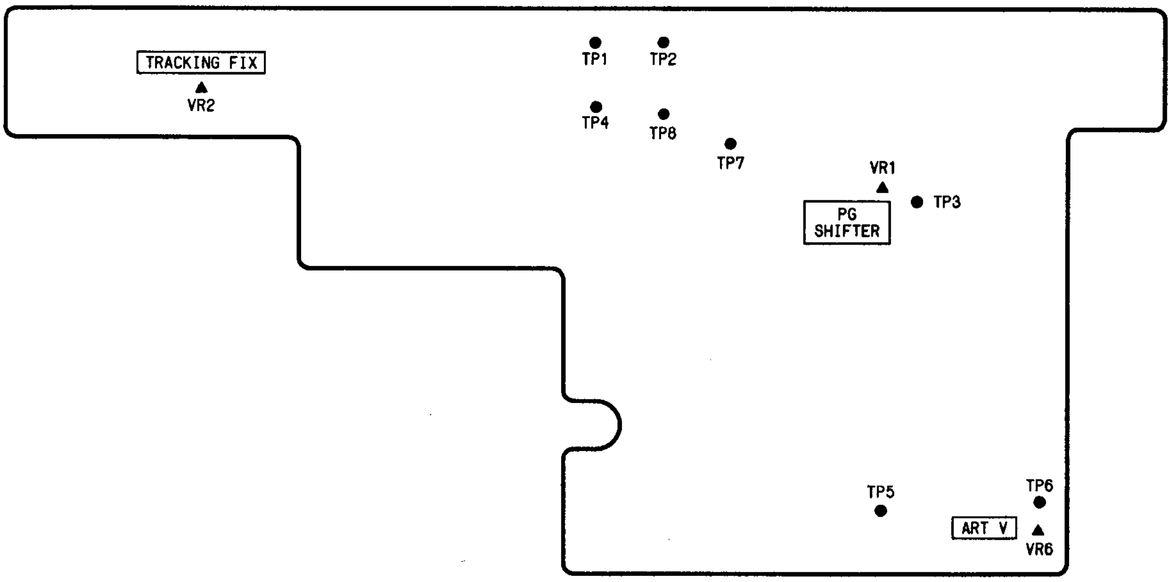
TP7
C E-E
VR15
TP8
VHS R EQ
VR11
VR10
TP4
TP6
VHS L EQ
TP11
TPG1
VR6
LIM BAL
TP12
VR7
TP9
TP3
TPG2
VHS REC CURR
f0
V RF LEV
VR1
VR17
VR2
S-VHS P.B.Y
VR8
TP10
TP5
VR9
DEV
SE LEV
TP2
VR16
VR14
S R EQ
VR3
D/C
S RF LEV
VR13
S L EQ
S-VHS REC CURR
VR5
VR4
W/C

REF.NO. 3500 SERIES **(FOIL SIDE)**

CIRCUIT BOARD LAYOUT

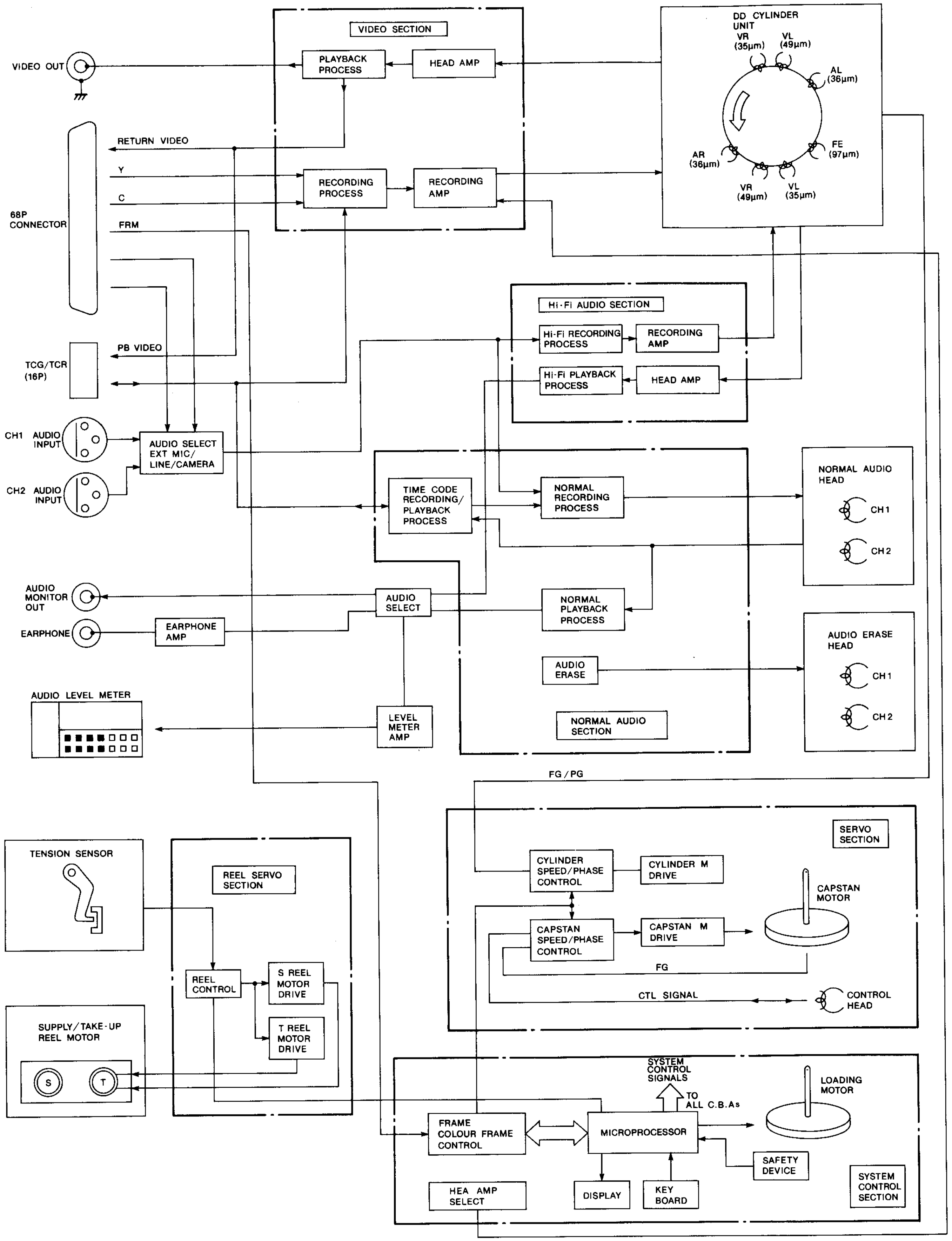

POWER (1) C.B.A.
REF. No. 1100 SERIES
POWER (3) C.B.A.
REF. No. 1000 SERIES
HEAD AMP C.B.A.
REF. No. 5000 SERIES
68P CONNECTION C.B.A.
REF. No. 6800 SERIES
T.C.G. C.B.A.
REF. No. 6600 SERIES
SERVO C.B.A.
REF. No. 2000 SERIES
SYSTEM CTL/REEL C.B.A.
REF. No. 2500 & 6000 SERIES
POWER (2) C.B.A.
REF. No. 1000 SERIES
OPERATION C.B.A.
REF. No. 6500 SERIES
VIDEO (2) C.B.A.
REF. No. 3500 & 3600 SERIES
VIDEO (1) C.B.A.
REF. No. 3000 SERIES
AUDIO & DISPLAY C.B.A.
REF. No. 4000, 4300, 4500 & 6900 SERIES
JACK UNIT
REF. No. 6700 SERIES

SERVO C.B.A. (VEP02337A)


TRACKING FIX
VR2
TP1
TP2
TP4
TP8
TP7
VR1
TP3
PG SHIFTER
TP5
TP6
ART V
VR6

REF.NO. 2000 SELIES (COMPONENT SIDE)

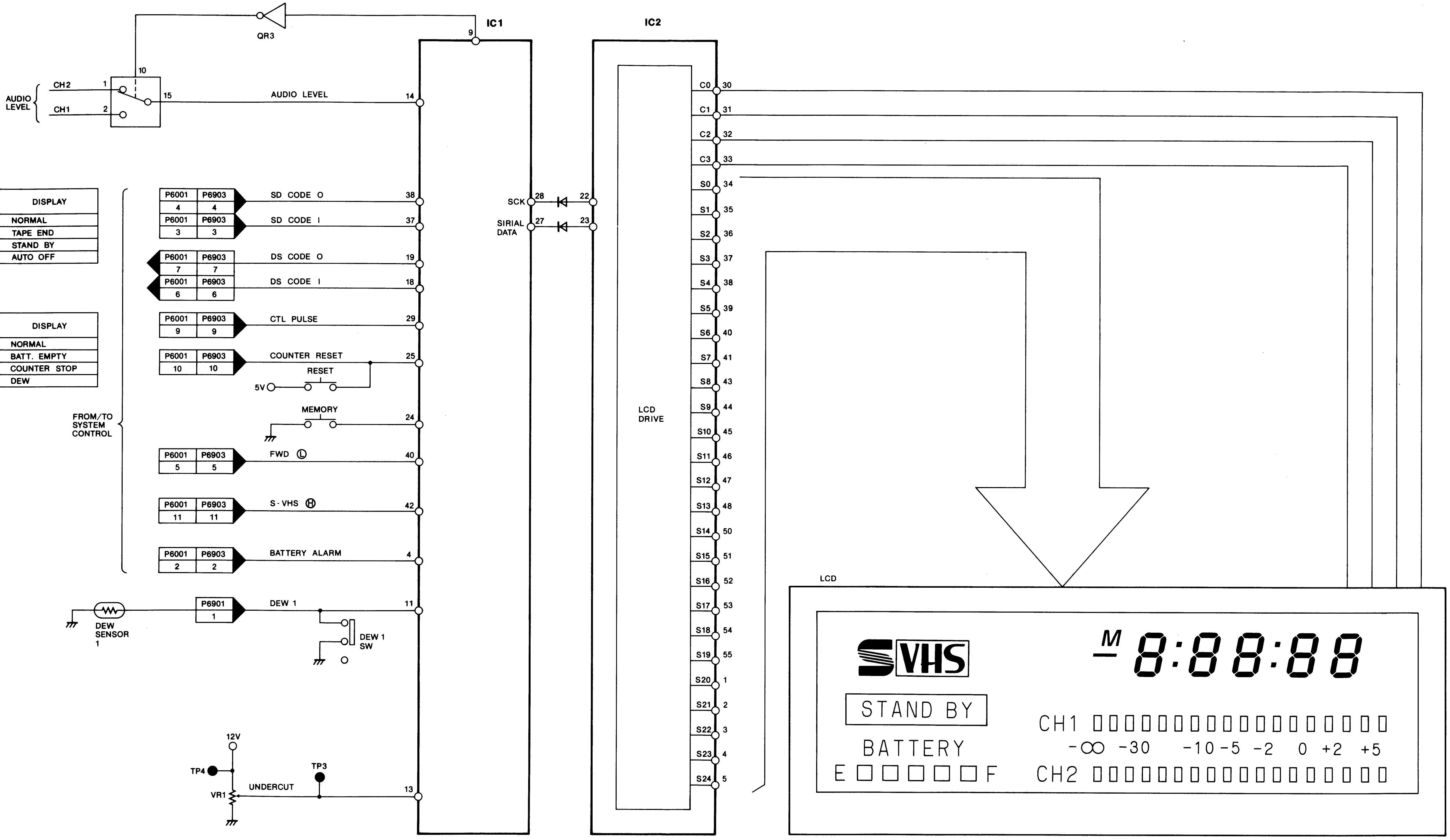
OVERALL BLOCK DIAGRAM


VIDEO SECTION
PLAYBACK PROCESS
HEAD AMP
RECORDING PROCESS
RECORDING AMP
DD CYLINDER UNIT
VR (35μm)
VL (49μm)
AL (36μm)
FE (97μm)
AR (36μm)
VR (49μm)
VL (35μm)
VIDEO OUT
RETURN VIDEO
Y
C
FRM
68P CONNECTOR
PB VIDEO
TCG/TCR (16P)
Hi-Fi AUDIO SECTION
Hi-Fi RECORDING PROCESS
RECORDING AMP
Hi-Fi PLAYBACK PROCESS
HEAD AMP
CH1 AUDIO INPUT
CH2 AUDIO INPUT
AUDIO SELECT EXT MIC/ LINE/CAMERA
TIME CODE RECORDING/ PLAYBACK PROCESS
NORMAL RECORDING PROCESS
NORMAL AUDIO HEAD
CH1
CH2
AUDIO MONITOR OUT
EARPHONE
EARPHONE AMP
AUDIO SELECT
NORMAL PLAYBACK PROCESS
AUDIO ERASE
AUDIO ERASE HEAD
CH1
CH2
AUDIO LEVEL METER
LEVEL METER AMP
NORMAL AUDIO SECTION
FG/PG
SERVO SECTION
CYLINDER SPEED/PHASE CONTROL
CYLINDER M DRIVE
CAPSTAN MOTOR
CAPSTAN SPEED/PHASE CONTROL
CAPSTAN M DRIVE
FG
CTL SIGNAL
CONTROL HEAD
TENSION SENSOR
REEL SERVO SECTION
REEL CONTROL
S REEL MOTOR DRIVE
T REEL MOTOR DRIVE
SUPPLY/TAKE-UP REEL MOTOR
S
T
SYSTEM CONTROL SIGNALS
TO ALL C.B.As
LOADING MOTOR
FRAME COLOUR FRAME CONTROL
MICROPROCESSOR
SAFETY DEVICE
SYSTEM CONTROL SECTION
HEA AMP SELECT
DISPLAY
KEY BOARD

DISPLAY BLOCK DIAGRAM

SD CODE		DISPLAY
SD1	SD0	
L	L	NORMAL
L	H	TAPE END
H	L	STAND BY
H	H	AUTO OFF

DS CODE		DISPLAY
DS1	DS0	
L	L	NORMAL
L	H	BATT. EMPTY
H	L	COUNTER STOP
H	H	DEW


QR3
IC1
IC2
AUDIO LEVEL
CH2
CH1
AUDIO LEVEL
FROM/TO SYSTEM CONTROL
P6001
P6903
SD CODE 0
SD CODE 1
DS CODE 0
DS CODE 1
CTL PULSE
COUNTER RESET
RESET
5V
MEMORY
FWD Ⓛ
S·VHS Ⓗ
BATTERY ALARM
P6901
DEW 1
DEW SENSOR 1
DEW 1 SW
12V
TP4
VR1
UNDERCUT
TP3
SCK
SIRIAL DATA
LCD DRIVE
C0
C1
C2
C3
S0
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20
S21
S22
S23
S24
LCD
S VHS
M
8:88:88
STAND BY
BATTERY
E □□□□□ F
CH1
-∞ -30 -10 -5 -2 0 +2 +5
CH2

SYSTEM CONTROL BLOCK DIAGRAM

TABLE 1

MODE	PLAY LED	REC LED	PAUSE LED	DUB LED
PIN	71	70	69	68
PLAY	H	L	L	L
STILL	H	L	H	L
REC INSERT	H	H	L	L
REC PAUSE	H	H	H	L
DUB	H	L	L	H
DUB PAUSE	H	L	H	H

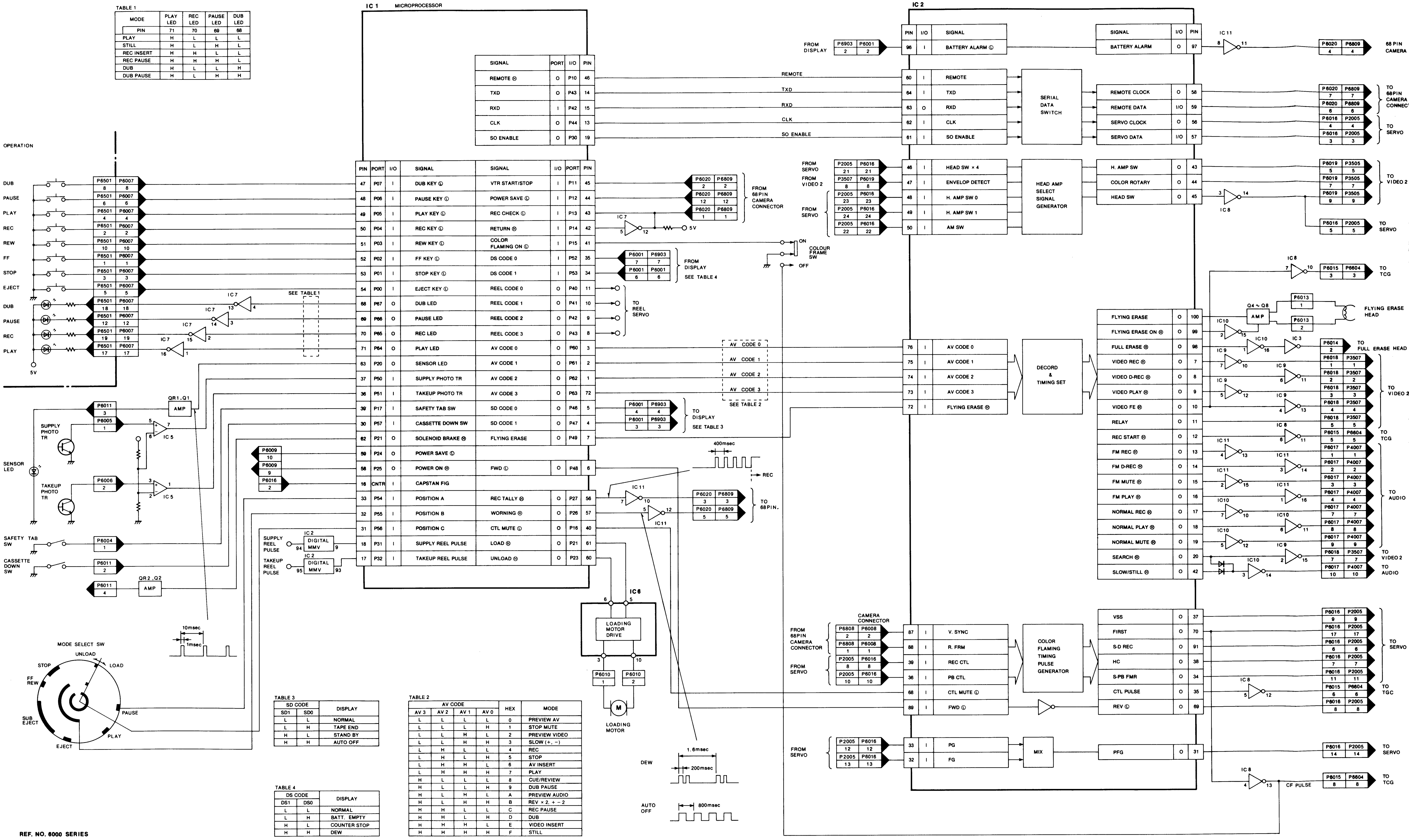

IC 1 MICROPROCESSOR
IC 2
OPERATION
DUB
PAUSE
PLAY
REC
REW
FF
STOP
EJECT
DUB
PAUSE
REC
PLAY
5V
SEE TABLE 1
IC 7
SIGNAL PORT I/O PIN
REMOTE Ⓗ O P10 46
TXD O P43 14
RXD I P42 15
CLK O P44 13
SO ENABLE O P30 19
PIN PORT I/O SIGNAL
47 P07 I DUB KEY Ⓛ
48 P06 I PAUSE KEY Ⓛ
49 P05 I PLAY KEY Ⓛ
50 P04 I REC KEY Ⓛ
51 P03 I REW KEY Ⓛ
52 P02 I FF KEY Ⓛ
53 P01 I STOP KEY Ⓛ
54 P00 I EJECT KEY Ⓛ
68 P67 O DUB LED
69 P66 O PAUSE LED
70 P65 O REC LED
71 P64 O PLAY LED
63 P20 O SENSOR LED
37 P50 I SUPPLY PHOTO TR
36 P51 I TAKEUP PHOTO TR
39 P17 I SAFETY TAB SW
30 P57 I CASSETTE DOWN SW
62 P21 O SOLENOID BRAKE Ⓗ
59 P24 O POWER SAVE Ⓛ
58 P25 O POWER ON Ⓗ
16 CNTR I CAPSTAN FIG
33 P54 I POSITION A
32 P55 I POSITION B
31 P56 I POSITION C
18 P31 I SUPPLY REEL PULSE
17 P32 I TAKEUP REEL PULSE
SIGNAL I/O PORT PIN
VTR START/STOP I P11 45
POWER SAVE Ⓛ I P12 44
REC CHECK Ⓛ I P13 43
RETURN Ⓗ I P14 42
COLOR FLAMING ON Ⓛ I P15 41
DS CODE 0 I P52 35
DS CODE 1 I P53 34
REEL CODE 0 O P40 11
REEL CODE 1 O P41 10
REEL CODE 2 O P42 9
REEL CODE 3 O P43 8
AV CODE 0 O P60 3
AV CODE 1 O P61 2
AV CODE 2 O P62 1
AV CODE 3 O P63 72
SD CODE 0 O P46 5
SD CODE 1 O P47 4
FLYING ERASE O P49 7
FWD Ⓛ O P48 6
REC TALLY Ⓗ O P27 56
WORNING Ⓗ O P26 57
CTL MUTE Ⓛ O P16 40
LOAD Ⓗ O P21 61
UNLOAD Ⓗ O P23 60
FROM 68PIN CAMERA CONNECTOR
FROM DISPLAY SEE TABLE 4
TO REEL SERVO
COLOUR FRAME SW
ON
OFF
SEE TABLE 2
TO DISPLAY SEE TABLE 3
400msec
REC
TO 68PIN.
IC 11
IC 8
LOADING MOTOR DRIVE
LOADING MOTOR
M
SUPPLY PHOTO TR
TAKEUP PHOTO TR
SENSOR LED
IC 5
QR1, Q1 AMP
QR2, Q2 AMP
SAFETY TAB SW
CASSETTE DOWN SW
SUPPLY REEL PULSE
TAKEUP REEL PULSE
IC 2 DIGITAL MMV
10msec
1msec
MODE SELECT SW
UNLOAD
LOAD
STOP
FF REW
PAUSE
SUB EJECT
PLAY
EJECT
DEW
1.6msec
200msec
AUTO OFF
800msec
FROM DISPLAY
PIN I/O SIGNAL
96 I BATTERY ALARM Ⓛ
60 I REMOTE
64 I TXD
63 O RXD
62 I CLK
61 I SO ENABLE
SERIAL DATA SWITCH
SIGNAL I/O PIN
BATTERY ALARM O 97
REMOTE CLOCK O 58
REMOTE DATA I/O 59
SERVO CLOCK O 56
SERVO DATA I/O 57
68 PIN CAMERA
TO 68PIN CAMERA CONNECT
TO SERVO
FROM SERVO
FROM VIDEO 2
46 I HEAD SW × 4
47 I ENVELOP DETECT
48 I H. AMP SW 0
49 I H. AMP SW 1
50 I AM SW
HEAD AMP SELECT SIGNAL GENERATOR
H. AMP SW O 43
COLOR ROTARY O 44
HEAD SW O 45
TO VIDEO 2
TO SERVO
TO TCG
FLYING ERASE HEAD
Q4 ~ Q8 AMP
TO FULL ERASE HEAD
76 I AV CODE 0
75 I AV CODE 1
74 I AV CODE 2
73 I AV CODE 3
72 I FLYING ERASE Ⓗ
DECORD & TIMING SET
FLYING ERASE O 100
FLYING ERASE ON Ⓗ O 99
FULL ERASE Ⓗ O 98
VIDEO REC Ⓗ O 7
VIDEO D-REC Ⓗ O 8
VIDEO PLAY Ⓗ O 9
VIDEO FE Ⓗ O 10
RELAY O 11
REC START Ⓗ O 12
FM REC Ⓗ O 13
FM D-REC Ⓗ O 14
FM MUTE Ⓗ O 15
FM PLAY Ⓗ O 16
NORMAL REC Ⓗ O 17
NORMAL PLAY Ⓗ O 18
NORMAL MUTE Ⓗ O 19
SEARCH Ⓗ O 20
SLOW/STILL Ⓗ O 42
TO VIDEO 2
TO TCG
TO AUDIO
TO VIDEO 2
TO AUDIO
IC 9
IC 10
IC 3
CAMERA CONNECTOR
FROM 68PIN CAMERA CONNECTOR
FROM SERVO
87 I V. SYNC
88 I R. FRM
39 I REC CTL
36 I PB CTL
68 I CTL MUTE Ⓛ
89 I FWD Ⓛ
COLOR FLAMING TIMING PULSE GENERATOR
VSS O 37
FIRST O 70
S-D REC O 91
HC O 38
S-PB FMR O 34
CTL PULSE O 35
REV Ⓛ O 69
TO SERVO
TO TGC
33 I PG
32 I FG
MIX
PFG O 31
TO SERVO
CF PULSE
TO TCG

TABLE 3

SD CODE		DISPLAY
SD1	SD0	
L	L	NORMAL
L	H	TAPE END
H	L	STAND BY
H	H	AUTO OFF

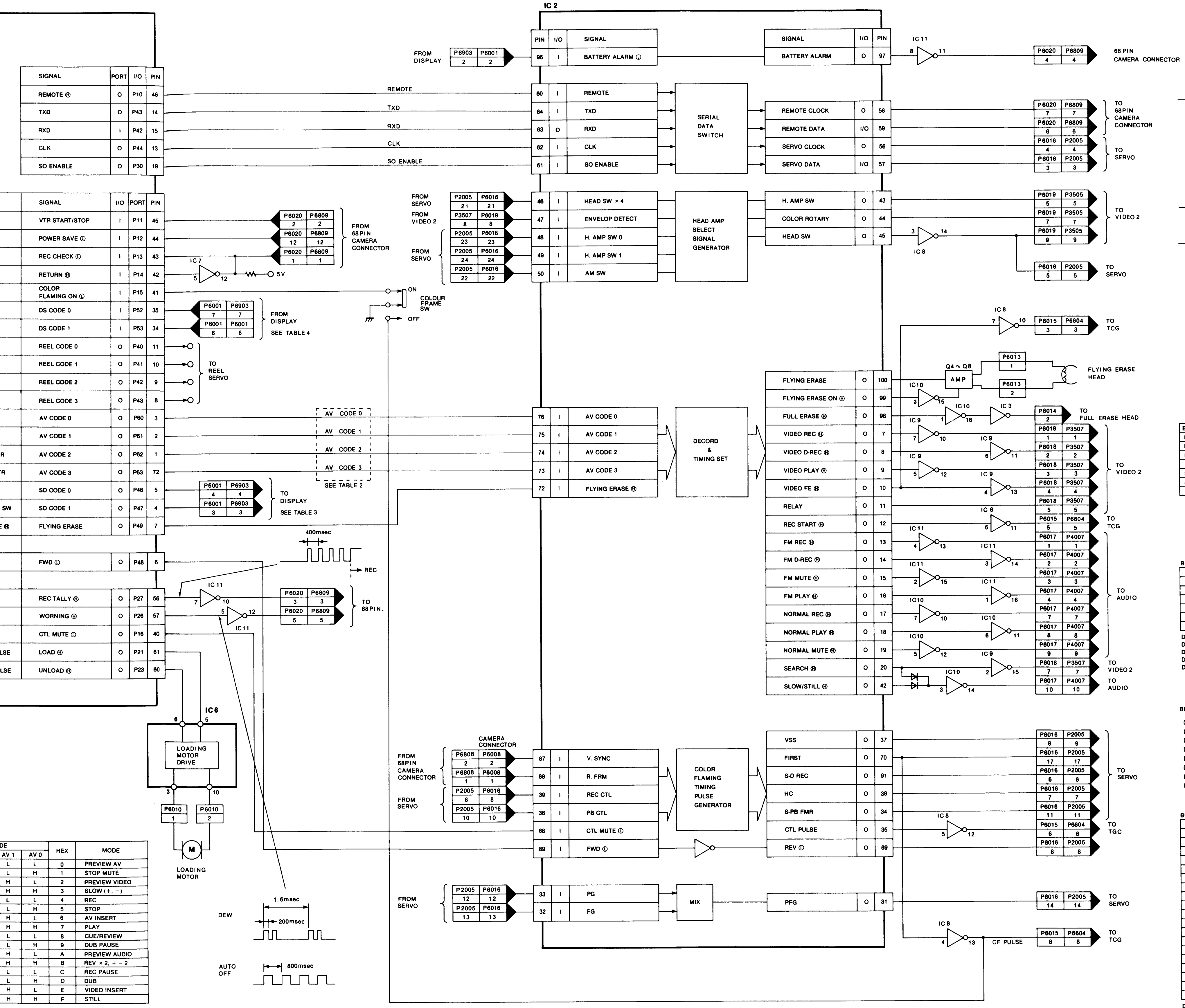
TABLE 4

DS CODE		DISPLAY
DS1	DS0	
L	L	NORMAL
L	H	BATT. EMPTY
H	L	COUNTER STOP
H	H	DEW

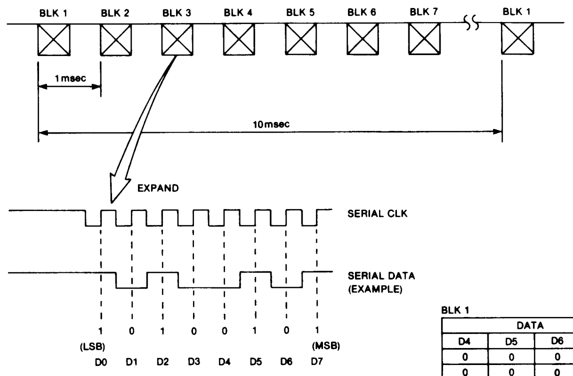
TABLE 2

AV CODE				HEX	MODE
AV 3	AV 2	AV 1	AV 0		
L	L	L	L	0	PREVIEW AV
L	L	L	H	1	STOP MUTE
L	L	H	L	2	PREVIEW VIDEO
L	L	H	H	3	SLOW (+, −)
L	H	L	L	4	REC
L	H	L	H	5	STOP
L	H	H	L	6	AV INSERT
L	H	H	H	7	PLAY
H	L	L	L	8	CUE/REVIEW
H	L	L	H	9	DUB PAUSE
H	L	H	L	A	PREVIEW AUDIO
H	L	H	H	B	REV × 2, + − 2
H	H	L	L	C	REC PAUSE
H	H	L	H	D	DUB
H	H	H	L	E	VIDEO INSERT
H	H	H	H	F	STILL

REF. NO. 6000 SERIES


IC 2
SIGNAL
PORT
I/O
PIN
REMOTE ⊕
TXD
RXD
CLK
SO ENABLE
VTR START/STOP
POWER SAVE Ⓛ
REC CHECK Ⓛ
RETURN ⊕
COLOR FLAMING ON Ⓛ
DS CODE 0
DS CODE 1
REEL CODE 0
REEL CODE 1
REEL CODE 2
REEL CODE 3
AV CODE 0
AV CODE 1
AV CODE 2
AV CODE 3
SD CODE 0
SD CODE 1
FLYING ERASE
FWD Ⓛ
REC TALLY ⊕
WORNING ⊕
CTL MUTE Ⓛ
LOAD ⊕
UNLOAD ⊕
IC 7
5V
FROM 68PIN CAMERA CONNECTOR
FROM DISPLAY
SEE TABLE 4
TO REEL SERVO
ON
OFF
COLOUR FRAME SW
SEE TABLE 2
TO DISPLAY
SEE TABLE 3
400msec
REC
IC 11
TO 68PIN.
IC6
LOADING MOTOR DRIVE
LOADING MOTOR
M
P6010
P6010
1.6msec
200msec
DEW
AUTO OFF
800msec
FROM DISPLAY
BATTERY ALARM Ⓛ
REMOTE
TXD
RXD
CLK
SO ENABLE
SERIAL DATA SWITCH
FROM SERVO
FROM VIDEO 2
HEAD SW × 4
ENVELOP DETECT
H. AMP SW 0
H. AMP SW 1
AM SW
HEAD AMP SELECT SIGNAL GENERATOR
DECORD & TIMING SET
FLYING ERASE ⊕
CAMERA CONNECTOR
FROM 68PIN CAMERA CONNECTOR
V. SYNC
R. FRM
REC CTL
PB CTL
CTL MUTE Ⓛ
FWD Ⓛ
COLOR FLAMING TIMING PULSE GENERATOR
PG
FG
MIX
BATTERY ALARM
REMOTE CLOCK
REMOTE DATA
SERVO CLOCK
SERVO DATA
H. AMP SW
COLOR ROTARY
HEAD SW
FLYING ERASE
FLYING ERASE ON ⊕
FULL ERASE ⊕
VIDEO REC ⊕
VIDEO D-REC ⊕
VIDEO PLAY ⊕
VIDEO FE ⊕
RELAY
REC START ⊕
FM REC ⊕
FM D-REC ⊕
FM MUTE ⊕
FM PLAY ⊕
NORMAL REC ⊕
NORMAL PLAY ⊕
NORMAL MUTE ⊕
SEARCH ⊕
SLOW/STILL ⊕
VSS
FIRST
S-D REC
HC
S-PB FMR
CTL PULSE
REV Ⓛ
PFG
IC 8
IC 9
IC 10
IC 3
Q4 ~ Q8
AMP
68 PIN CAMERA CONNECTOR
TO 68PIN CAMERA CONNECTOR
TO SERVO
TO VIDEO 2
TO TCG
FLYING ERASE HEAD
TO FULL ERASE HEAD
TO AUDIO
TO TGC
CF PULSE

DE		HEX	MODE
AV 1	AV 0		
L	L	0	PREVIEW AV
L	H	1	STOP MUTE
H	L	2	PREVIEW VIDEO
H	H	3	SLOW (+, −)
L	L	4	REC
L	H	5	STOP
H	L	6	AV INSERT
H	H	7	PLAY
L	L	8	CUE/REVIEW
L	H	9	DUB PAUSE
H	L	A	PREVIEW AUDIO
H	H	B	REV × 2, + − 2
L	L	C	REC PAUSE
L	H	D	DUB
H	L	E	VIDEO INSERT
H	H	F	STILL


BLK 1
BLK 2
BLK 3
BLK 4
BLK 5
BLK 6
BLK 7
BLK 1
1msec
10msec
EXPAND
SERIAL CLK
SERIAL DATA (EXAMPLE)
1
0
1
0
0
1
0
1
(LSB)
(MSB)
D0
D1
D2
D3
D4
D5
D6
D7

BLK 1

DATA				CAP SPEED DATA
D4	D5	D6	D7	
0	0	0	0	CAP OFF (STILL, PAUSE)
0	0	0	1	X 1/25
0	0	1	0	X 1/9
0	0	1	1	X 1/5
0	1	0	0	X 1/2
0	1	0	1	X1
0	1	1	0	X2
0	1	1	1	X5
1	0	0	0	X9

D3: CAPSTAN FWD/REW FWD; REV; 1
D2: TIME MODE SP; 0 SLP; 1
D1: NTSC; 0 PAL; 1
D0: 0

BLOCK	DATA TRANSMISSION	CONTENTS
BLK 1	SYSCON ↔ SERVO	CAPSTAN DATA
BLK 2	SYSCON ↔ SERVO	CYLINDER DATA
BLK 3	SERVO ↔ SYSCON	SERVO DATA
BLK 4	VTR ADAPTOR ↔ SYSCON	MODE DATA
BLK 5	VTR ADAPTOR ↔ SYSCON	SPEED DATA
BLK 6	SYSCON ↔ VTR ADAPTOR	MODE DATA
BLK 7	SYSCON ↔ VTR ADAPTOR	SPEED DATA

BLK5

DATA			CAP SPEED DATA
D2	D1	D0	
1	1	1	CUE/REVIEW × 5
1	1	0	CUE/REVIEW × 2
1	0	1	FWD/REV × 1
1	0	0	SLOW × 1/2
0	1	1	SLOW × 1/5
0	1	0	SLOW × 1/9
0	0	1	SLOW × 1/25
0	0	0	STILL

D3: NOT USE
D4: NOT USE
D5: NOT USE
D6: NOT USE
D7: FWD; 0 REV; 1

BLK 2

DATA			MODE DATA
D0	D1	D2	
0	0	0	PLAY
0	0	1	INSERT
0	1	0	MEMORY
0	1	1	SHORT PLAY
1	0	0	REC PLAY

D3: CYLINDER ON/OFF ON; OFF; 0
D4: 0
D5: NOT USE
D6: FRAME ON/OFF ON; 1 OFF; 0
D7: INT/EXT BIT EXT; 0 INT; 1

BLK 6

DATA				MODE DATA
D3	D2	D1	D0	
0	0	0	0	STOP
0	0	0	1	EJECT
0	0	1	0	FF
0	0	1	1	REW
0	1	0	0	PLAY
0	1	0	1	REMOTE SERCH
0	1	1	0	REC
0	1	1	1	REC PAUSE
1	0	0	0	INSERT
1	0	0	1	V INSERT
1	0	1	0	AV INSERT
1	0	1	1	DUB PAUSE
1	1	1	0	STOP (II)

D4: NOT USE
D5: NOT USE
D6: BATTERY ERROR; 1 NORMAL; 0
D7: DURING MODE CHANGING; 1
MODE CHANGE COMPLETION ; 0

BLK 3

D0: NOT USE
D1: NOT USE
D2: NOT USE
D3: NOT USE
D4: NOT USE
D5: NOT USE
D6: NOT USE
D7: CYLINDER NG

BLK 4

DATA					MODE DATA
D4	D3	D2	D1	D0	
0	0	0	0	0	NO
0	0	0	0	1	EJECT
0	0	0	1	0	STOP
0	0	0	1	1	FF
0	0	1	0	0	REW
0	0	1	0	1	REMOTE PLAY
0	0	1	1	0	REC
0	0	1	1	1	REC PAUSE
0	1	0	0	0	DUB
0	1	0	0	1	DUB PAUSE
0	1	0	1	0	ASSEMBLE
0	1	0	1	1	AUDIO INSERT
0	1	1	0	0	VIDEO INSERT
0	1	1	0	1	AV INSERT
0	1	1	1	0	CUT OUT
1	1	0	1	1	A. INSERT PREVIEW
1	1	1	0	0	V. INSERTPREVIEW
1	1	1	0	1	AV INSERT PREVIEW

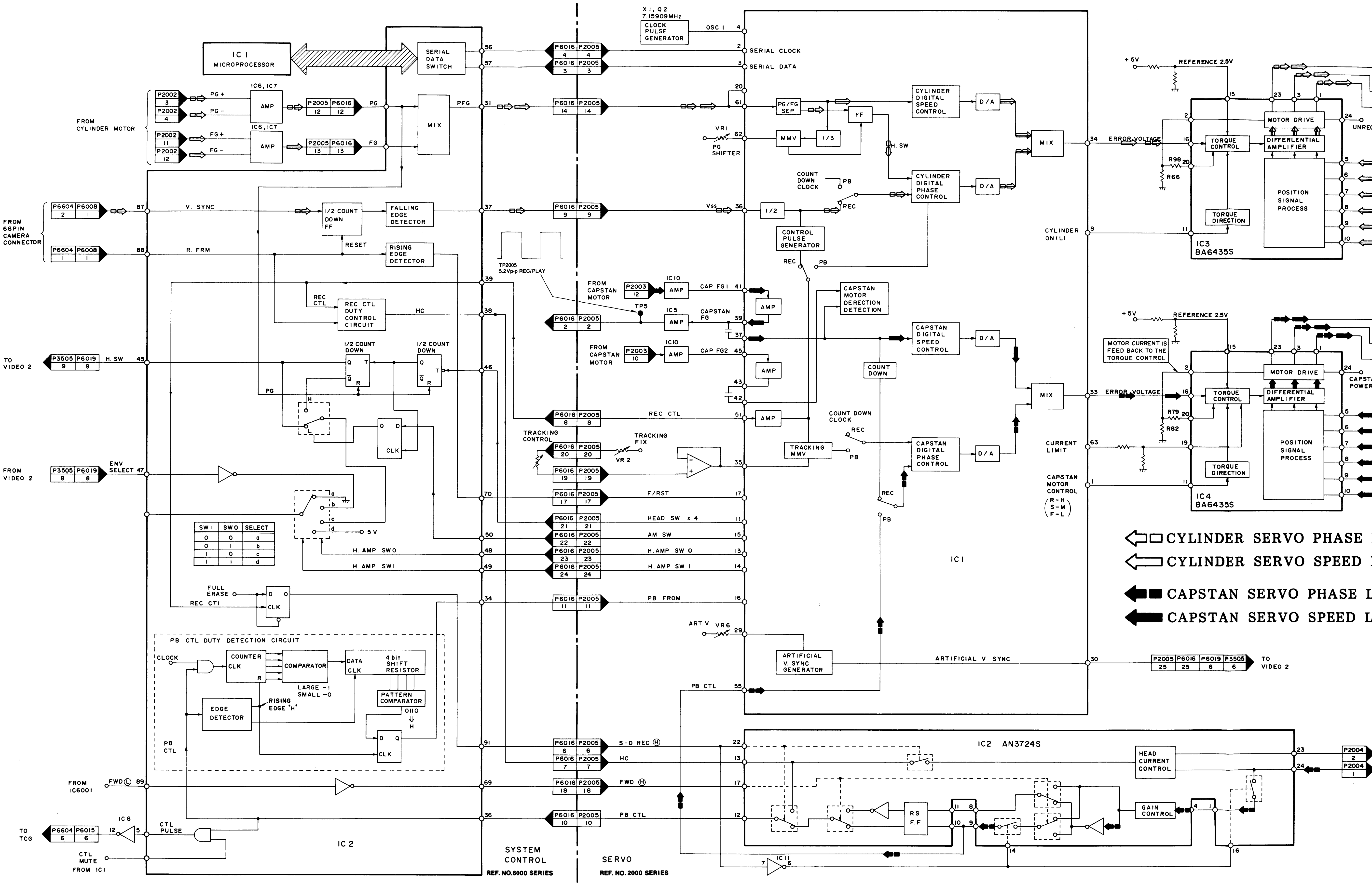
D5: NOT USE
D6: NOT USE
D7: PAUSE INHIBIT DURING REC; 0

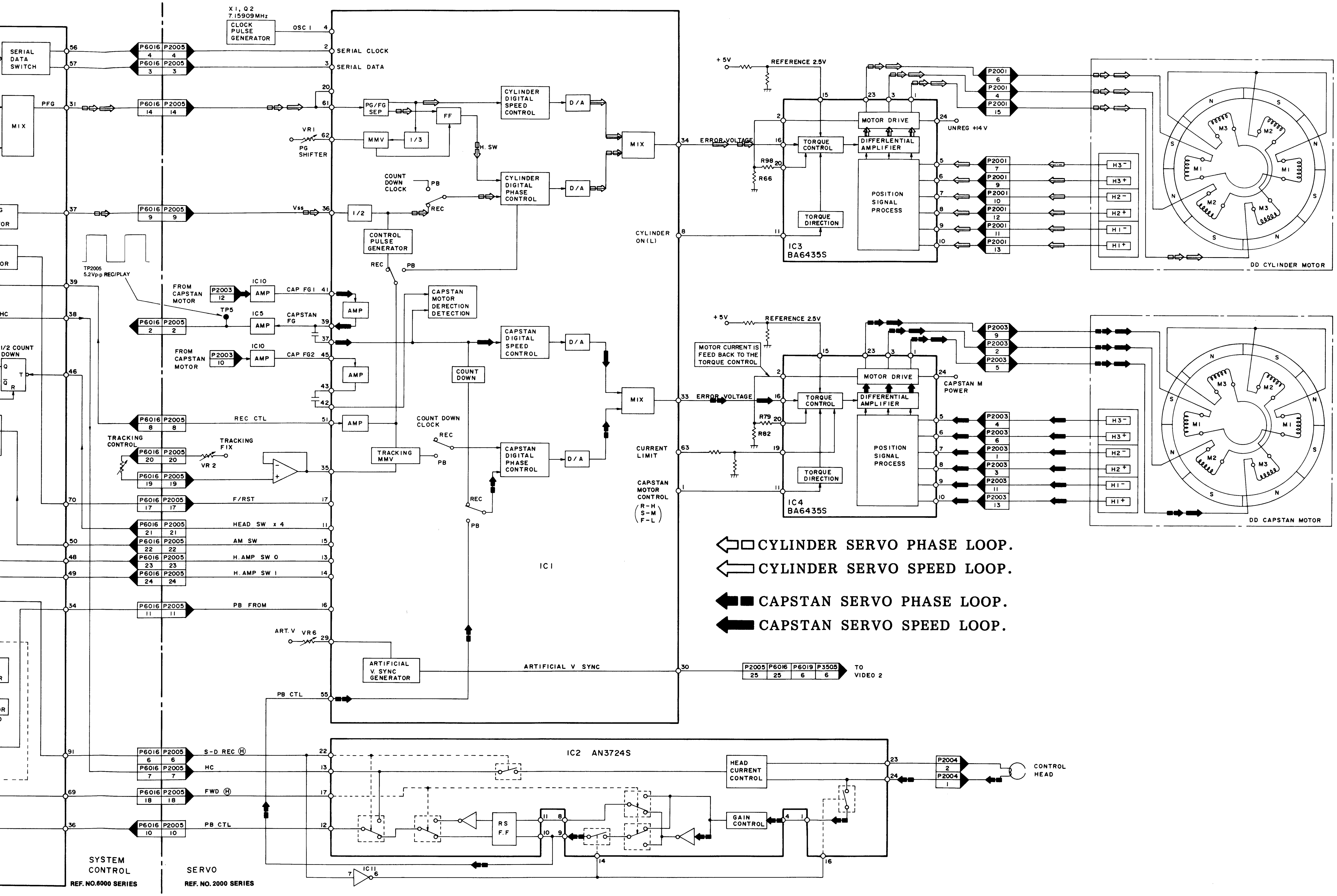
BLK 7

DATA				SPEED DATA
D3	D2	D1	D0	
1	0	0	0	FF/REW
0	1	1	1	× 5
0	1	1	0	× 2
0	1	0	1	× 1
0	1	0	0	× 1/2
0	0	1	1	× 1/5
0	0	1	0	× 1/9
0	0	0	1	× 1/25
0	0	0	0	× 0

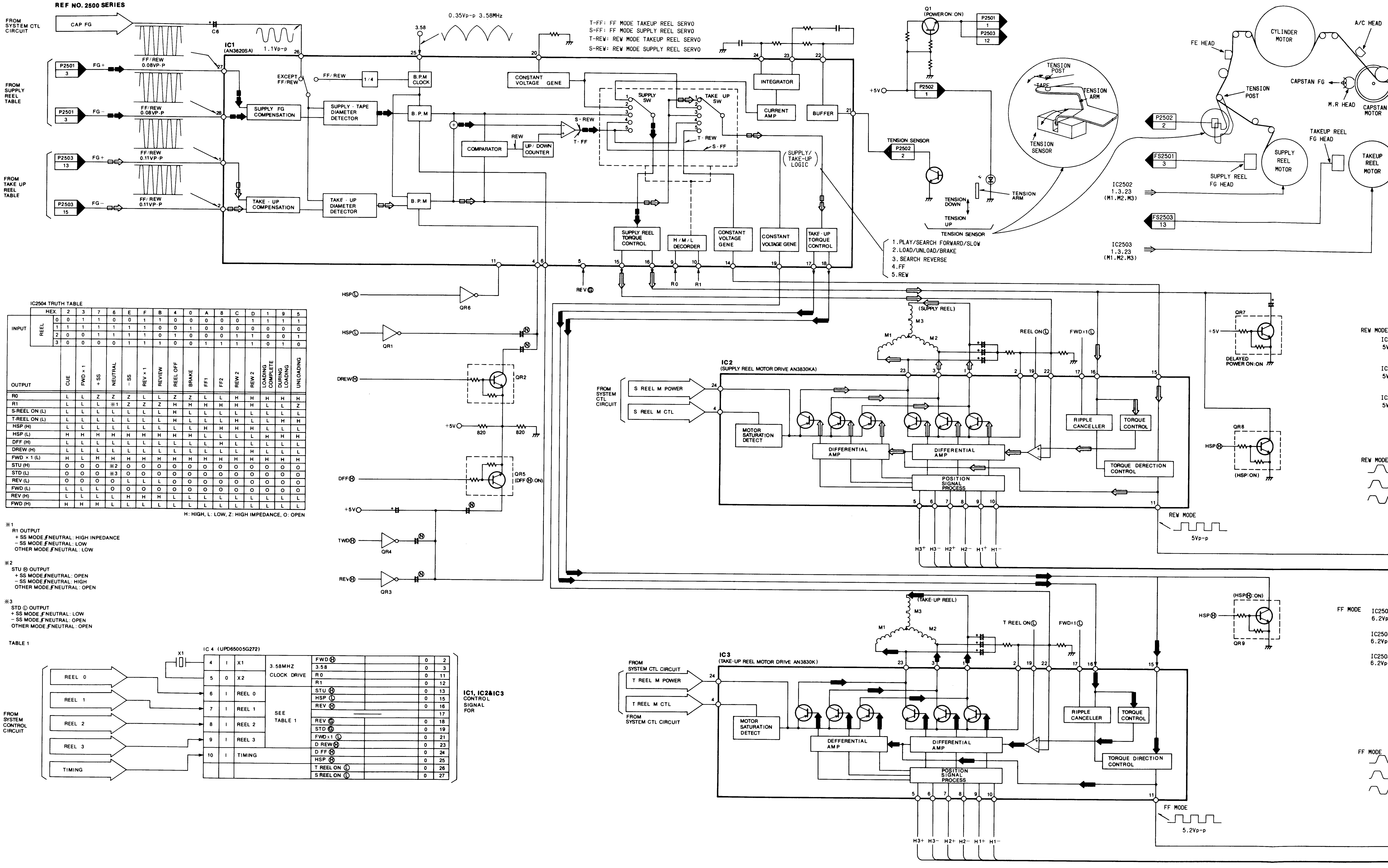
D4: NOT USE
D5: NOT USE
D6: NOT USE
D7: FWD; 0 REV; 1
MODE CHANGE COMPLETION; 0

SERVO BLOCK DIAGRAM


IC1 MICROPROCESSOR
SERIAL DATA SWITCH
X1, Q2 7.15909MHz
CLOCK PULSE GENERATOR
OSC I
SERIAL CLOCK
SERIAL DATA
FROM CYLINDER MOTOR
PG+
PG−
FG+
FG−
IC6, IC7
AMP
MIX
PFG
PG
FG
VR1
PG SHIFTER
PG/FG SEP
MMV
1/3
FF
H. SW
CYLINDER DIGITAL SPEED CONTROL
CYLINDER DIGITAL PHASE CONTROL
D/A
MIX
COUNT DOWN CLOCK
PB
REC
FROM 68PIN CAMERA CONNECTOR
V. SYNC
R. FRM
1/2 COUNT DOWN FF
RESET
FALLING EDGE DETECTOR
RISING EDGE DETECTOR
1/2
CONTROL PULSE GENERATOR
TP2005 5.2Vp-p REC/PLAY
TP5
FROM CAPSTAN MOTOR
IC10
IC5
CAP FG1
CAPSTAN FG
CAP FG2
CAPSTAN MOTOR DERECTION DETECTION
CAPSTAN DIGITAL SPEED CONTROL
CAPSTAN DIGITAL PHASE CONTROL
COUNT DOWN
COUNT DOWN CLOCK
REC CTL
REC CTL DUTY CONTROL CIRCUIT
HC
TO VIDEO 2
H. SW
1/2 COUNT DOWN
TRACKING CONTROL
TRACKING FIX
VR 2
TRACKING MMV
FROM VIDEO 2
ENV SELECT
F/RST
HEAD SW x 4
AM SW
H. AMP SW 0
H. AMP SW 1
5V
SW1 SW0 SELECT
0 0 a
0 1 b
1 0 c
1 1 d
FULL ERASE
REC CTI
PB FROM
ART. V
VR6
ARTIFICIAL V. SYNC GENERATOR
ARTIFICIAL V SYNC
TO VIDEO 2
PB CTL DUTY DETECTION CIRCUIT
CLOCK
COUNTER
COMPARATOR
4 bit SHIFT RESISTOR
LARGE −1 SMALL −0
PATTERN COMPARATOR
EDGE DETECTOR
RISING EDGE "H"
PB CTL
S-D REC Ⓗ
FWD Ⓗ
FROM IC6001
FWD Ⓛ
TO TCG
IC8
CTL PULSE
CTL MUTE FROM IC1
IC2
IC11
IC2 AN3724S
HEAD CURRENT CONTROL
RS F.F
GAIN CONTROL
SYSTEM CONTROL REF. NO.6000 SERIES
SERVO REF. NO. 2000 SERIES
IC1
+5V
REFERENCE 2.5V
MOTOR DRIVE
DIFFERLENTIAL AMPLIFIER
DIFFERENTIAL AMPLIFIER
TORQUE CONTROL
TORQUE DIRECTION
POSITION SIGNAL PROCESS
ERROR VOLTAGE
R98
R66
R79
R82
CYLINDER ON (L)
IC3 BA6435S
IC4 BA6435S
MOTOR CURRENT IS FEED BACK TO THE TORQUE CONTROL
CURRENT LIMIT
CAPSTAN MOTOR CONTROL
R-H S-M F-L
UNREG
CAPSTA POWER
CYLINDER SERVO PHASE
CYLINDER SERVO SPEED
CAPSTAN SERVO PHASE L
CAPSTAN SERVO SPEED L
P2004
P2005
P6016
P6019
P3505
P6604
P6008
P6015
P2002
P2003


X1, Q2
7.15909MHz
CLOCK PULSE GENERATOR
OSC 1
SERIAL DATA SWITCH
SERIAL CLOCK
SERIAL DATA
P6016
P2005
PFG
MIX
PG/FG SEP
FF
CYLINDER DIGITAL SPEED CONTROL
D/A
VR1
PG SHIFTER
MMV
1/3
H. SW
COUNT DOWN CLOCK
PB
REC
CYLINDER DIGITAL PHASE CONTROL
Vss
1/2
CONTROL PULSE GENERATOR
TP2005
5.2Vp-p REC/PLAY
FROM CAPSTAN MOTOR
P2003
IC10
AMP
CAP FG1
TP5
IC5
CAPSTAN FG
CAP FG2
CAPSTAN MOTOR DERECTION DETECTION
CAPSTAN DIGITAL SPEED CONTROL
COUNT DOWN
1/2 COUNT DOWN
REC CTL
TRACKING CONTROL
TRACKING FIX
VR 2
TRACKING MMV
CAPSTAN DIGITAL PHASE CONTROL
F/RST
HEAD SW x 4
AM SW
H. AMP SW 0
H. AMP SW 1
PB FROM
IC1
ART. V
VR6
ARTIFICIAL V. SYNC GENERATOR
ARTIFICIAL V SYNC
P2005 P6016 P6019 P3505
TO VIDEO 2
PB CTL
CYLINDER ON (L)
ERROR VOLTAGE
CURRENT LIMIT
CAPSTAN MOTOR CONTROL
R-H
S-M
F-L
+5V
REFERENCE 2.5V
MOTOR DRIVE
UNREG +14 V
TORQUE CONTROL
DIFFERLENTIAL AMPLIFIER
R98
R66
POSITION SIGNAL PROCESS
TORQUE DIRECTION
IC3
BA6435S
P2001
H3⁻
H3⁺
H2⁻
H2⁺
H1⁻
H1⁺
M1
M2
M3
N
S
DD CYLINDER MOTOR
MOTOR CURRENT IS FEED BACK TO THE TORQUE CONTROL
CAPSTAN M POWER
R79
R82
IC4
BA6435S
DD CAPSTAN MOTOR
CYLINDER SERVO PHASE LOOP.
CYLINDER SERVO SPEED LOOP.
CAPSTAN SERVO PHASE LOOP.
CAPSTAN SERVO SPEED LOOP.
IC2 AN3724S
S-D REC Ⓗ
HC
FWD Ⓗ
HEAD CURRENT CONTROL
RS F.F
GAIN CONTROL
P2004
CONTROL HEAD
IC11
SYSTEM CONTROL
REF. NO.6000 SERIES
SERVO
REF. NO. 2000 SERIES

REEL SERVO BLOCK DIAGRAM


REF NO. 2500 SERIES
FROM SYSTEM CTL CIRCUIT
CAP FG
C6
1.1Vp-p
0.35Vp-p 3.58MHz
3.58
IC1 (AN3620SA)
FROM SUPPLY REEL TABLE
P2501 3
FG+
FG−
FF/REW 0.08VP-P
FROM TAKE UP REEL TABLE
P2503 13
P2503 15
FF/REW 0.11VP-P
EXCEPT FF/REW
FF/REW
1/4
B.P.M CLOCK
B.P.M
SUPPLY FG COMPENSATION
SUPPLY - TAPE DIAMETER DETECTOR
TAKE - UP COMPENSATION
TAKE - UP DIAMETER DETECTOR
COMPARATOR
REW
UP/ DOWN COUNTER
S-REW
T-FF
CONSTANT VOLTAGE GENE
T-FF: FF MODE TAKEUP REEL SERVO
S-FF: FF MODE SUPPLY REEL SERVO
T-REW: REW MODE TAKEUP REEL SERVO
S-REW: REW MODE SUPPLY REEL SERVO
SUPPLY SW
TAKE UP SW
T-REW
S-FF
INTEGRATOR
CURRENT AMP
BUFFER
(SUPPLY/ TAKE-UP LOGIC)
SUPPLY REEL TORQUE CONTROL
H/M/L DECORDER
CONSTANT VOLTAGE GENE
CONSTANT VOLTAGE GENE
TAKE-UP TORQUE CONTROL
REV Ⓖ
R0
R1
HSP Ⓛ
QR6
QR1
DREW Ⓗ
QR2
+5V
820
820
DFF Ⓗ
QR5 (DFF Ⓗ:ON)
TWD Ⓗ
QR4
REV Ⓗ
QR3
Ⓝ
Q1 (POWER ON:ON)
P2501 1
P2503 12
+5V
P2502 1
TENSION SENSOR
P2502 2
TENSION DOWN
TENSION UP
TENSION ARM
TENSION SENSOR
1.PLAY/SEARCH FORWARD/SLOW
2.LOAD/UNLOAD/BRAKE
3.SEARCH REVERSE
4.FF
5.REW
TENSION POST
TAPE
TENSION ARM
TENSION SENSOR
FE HEAD
CYLINDER MOTOR
A/C HEAD
CAPSTAN FG
M.R HEAD
CAPSTAN MOTOR
TENSION POST
P2502 2
FS2501 3
SUPPLY REEL FG HEAD
SUPPLY REEL MOTOR
TAKEUP REEL FG HEAD
TAKEUP REEL MOTOR
FS2503 13
IC2502 1.3.23 (M1.M2.M3)
IC2503 1.3.23 (M1.M2.M3)
(SUPPLY REEL)
M1
M2
M3
REEL ON Ⓛ
FWD×1 Ⓛ
IC2 (SUPPLY REEL MOTOR DRIVE AN3830KA)
FROM SYSTEM CTL CIRCUIT
S REEL M POWER
S REEL M CTL
MOTOR SATURATION DETECT
DIFFERENTIAL AMP
DIFFERENTIAL AMP
POSITION SIGNAL PROCESS
RIPPLE CANCELLER
TORQUE CONTROL
TORQUE DERECTION CONTROL
REW MODE
5Vp-p
H3+ H3− H2+ H2− H1+ H1−
QR7
+5V
DELAYED POWER ON:ON
QR8
HSP Ⓗ
(HSP:ON)
REW MODE
(TAKE-UP REEL)
T REEL ON Ⓛ
FWD×1 Ⓛ
IC3 (TAKE-UP REEL MOTOR DRIVE AN3830K)
FROM SYSTEM CTL CIRCUIT
T REEL M POWER
T REEL M CTL
FROM SYSTEM CTL CIRCUIT
MOTOR SATURATION DETECT
DEFFERENTIAL AMP
DIFFERENTIAL AMP
POSITION SIGNAL PROCESS
RIPPLE CANCELLER
TORQUE CONTROL
TORQUE DIRECTION CONTROL
FF MODE
5.2Vp-p
H3+ H3− H2+ H2− H1+ H1−
(HSP Ⓗ:ON)
HSP Ⓗ
QR9
FF MODE
FROM SYSTEM CONTROL CIRCUIT
REEL 0
REEL 1
REEL 2
REEL 3
TIMING
X1
IC 4 (UPD65005G272)
IC1, IC2&IC3 CONTROL SIGNAL FOR

IC2504 TRUTH TABLE

	HEX.	2	3	7	6	E	F	B	4	0	A	8	C	D	1	9	5
INPUT	REEL 0	0	1	1	0	0	1	1	0	0	0	0	0	1	1	1	1
	REEL 1	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0
	REEL 2	0	0	1	1	1	1	0	1	0	0	0	1	1	0	0	1
	REEL 3	0	0	0	0	1	1	1	0	0	1	1	1	1	0	1	0
OUTPUT		CUE	FWD × 1	+ SS	NEUTRAL	− SS	REV × 1	REVIEW	REEL OFF	BRAKE	FF1	FF2	REW 2	REW 2	LOADING COMPLETE	DURING LOADING	UNLOADING
R0		L	L	Z	Z	Z	L	L	Z	Z	L	L	H	H	H	H	H
R1		L	L	L	※1	Z	Z	Z	H	H	H	H	H	H	L	L	Z
S-REEL ON (L)		L	L	L	L	L	L	L	H	L	L	L	L	L	L	L	L
T-REEL ON (L)		L	L	L	L	L	L	L	H	L	L	L	H	L	L	H	H
HSP (H)		L	L	L	L	L	L	L	L	L	H	H	H	H	L	L	L
HSP (L)		H	H	H	H	H	H	H	H	H	L	L	L	L	H	H	H
DFF (H)		L	L	L	L	L	L	L	L	L	L	H	L	L	L	L	L
DREW (H)		L	L	L	L	L	L	L	L	L	L	L	L	H	L	L	L
FWD × 1 (L)		H	L	H	H	H	H	H	H	H	H	H	H	H	H	H	H
STU (H)		O	O	O	※2	O	O	O	O	O	O	O	O	O	O	O	O
STD (L)		O	O	O	※3	O	O	O	O	O	O	O	O	O	O	O	O
REV (L)		O	O	O	O	L	L	L	O	O	O	O	O	O	O	O	O
FWD (L)		L	L	L	O	O	O	O	O	O	O	O	O	O	O	O	O
REV (H)		L	L	L	L	H	H	H	L	L	L	L	L	L	L	L	L
FWD (H)		H	H	H	L	L	L	L	L	L	L	L	L	L	L	L	L

H: HIGH, L: LOW, Z: HIGH IMPEDANCE, O: OPEN

※1
R1 OUTPUT
+ SS MODE⨍NEUTRAL: HIGH INPEDANCE
− SS MODE⨍NEUTRAL: LOW
OTHER MODE⨍NEUTRAL: LOW

※2
STU Ⓗ OUTPUT
+ SS MODE⨍NEUTRAL: OPEN
− SS MODE⨍NEUTRAL: HIGH
OTHER MODE⨍NEUTRAL: OPEN

※3
STD Ⓛ OUTPUT
+ SS MODE⨍NEUTRAL: LOW
− SS MODE⨍NEUTRAL: OPEN
OTHER MODE⨍NEUTRAL: OPEN

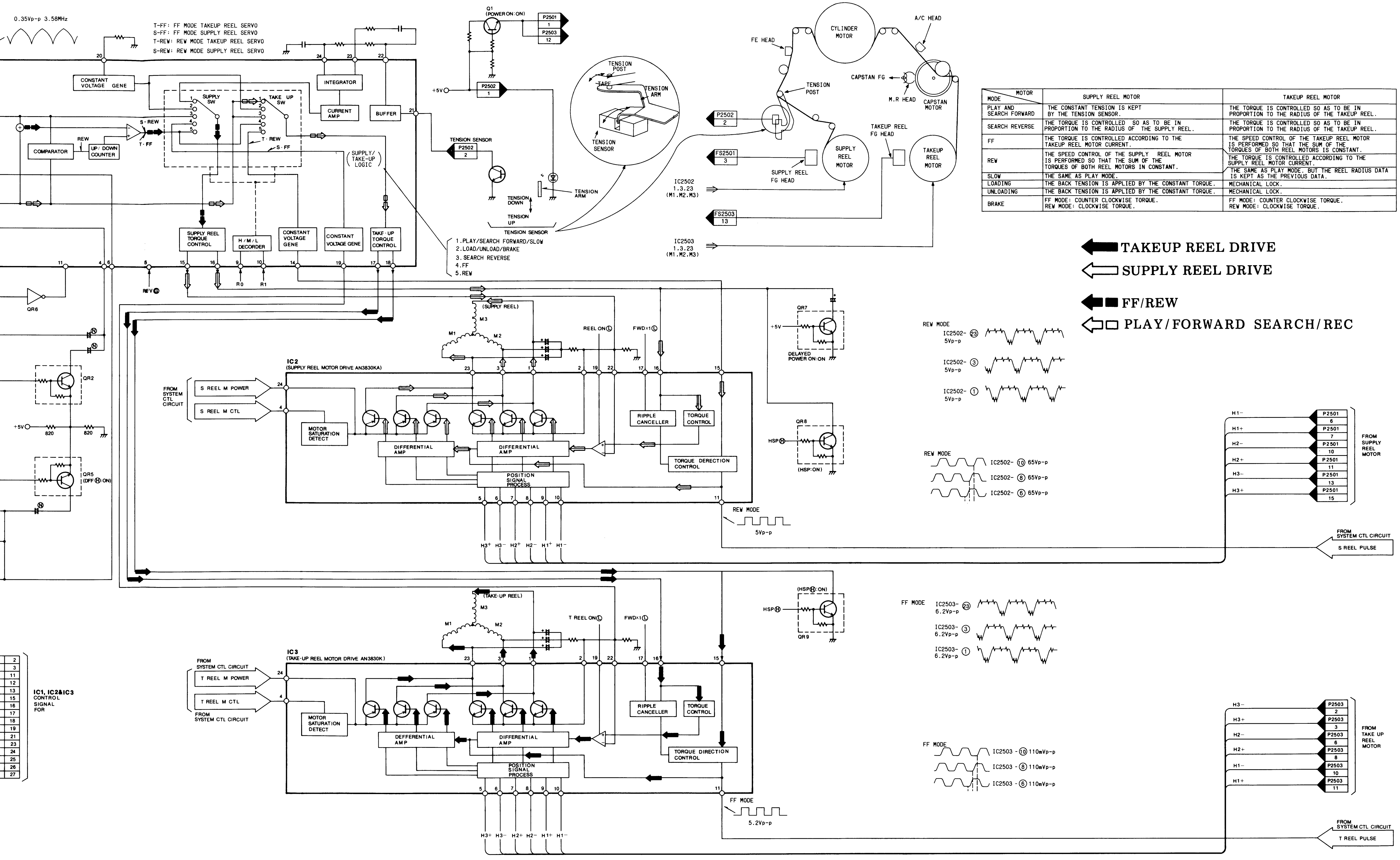
TABLE 1

IC 4 (UPD65005G272)

4	I	X1	3.58MHZ CLOCK DRIVE
5	0	X2	
6	I	REEL 0	SEE TABLE 1
7	I	REEL 1	
8	I	REEL 2	
9	I	REEL 3	
10	I	TIMING	

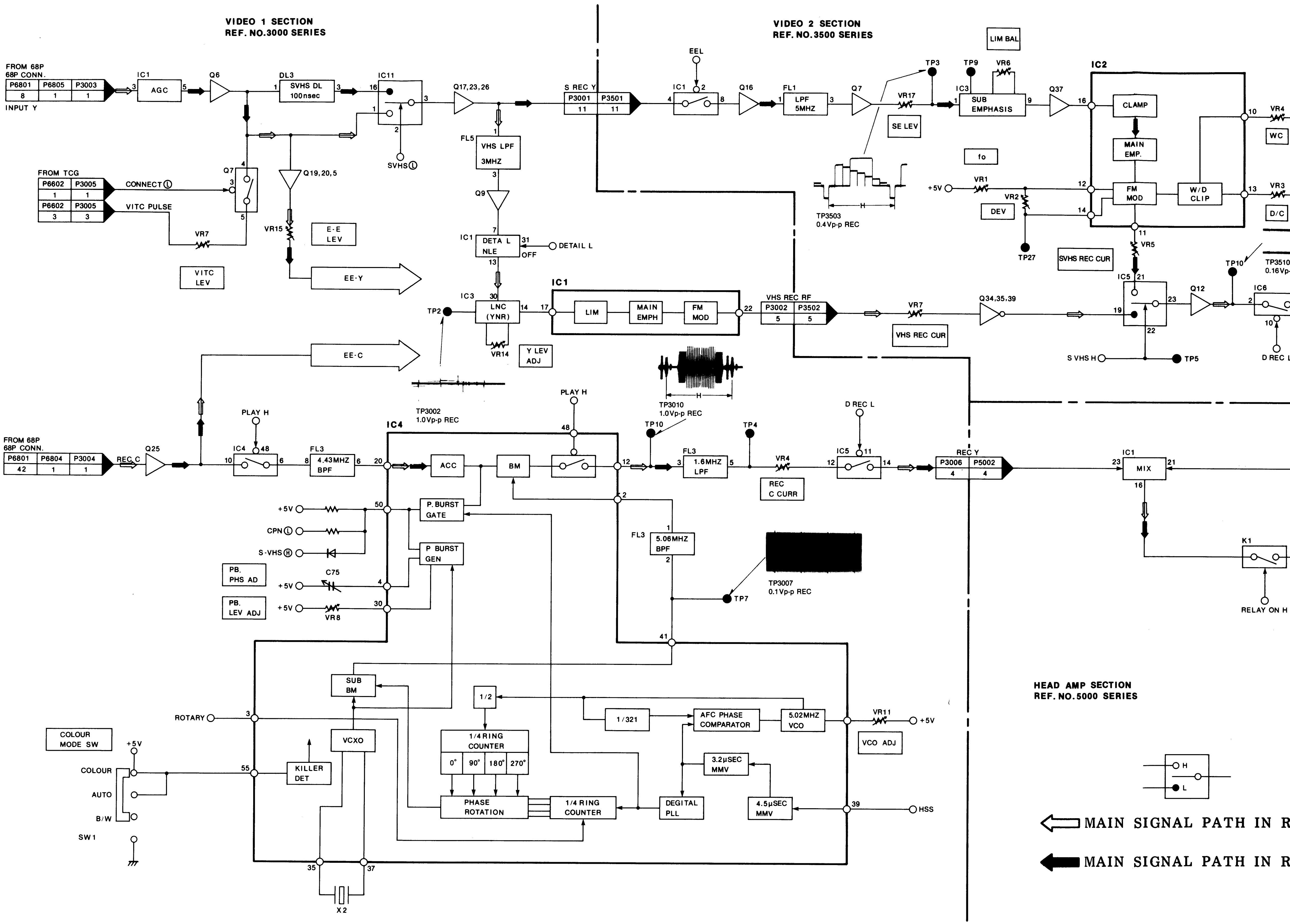
FWD Ⓗ		0	2
3.58		0	3
R0		0	11
R1		0	12
STU Ⓗ		0	13
HSP Ⓛ		0	15
REV Ⓗ		0	16
	—		17
REV Ⓖ		0	18
STD Ⓖ		0	19
FWD×1 Ⓛ		0	21
D REW Ⓗ		0	23
D FF Ⓗ		0	24
HSP Ⓗ		0	25
T REEL ON Ⓛ		0	26
S REEL ON Ⓛ		0	27

IC1, IC2&IC3 CONTROL SIGNAL FOR


0.35Vp-p 3.58MHz
T-FF: FF MODE TAKEUP REEL SERVO
S-FF: FF MODE SUPPLY REEL SERVO
T-REW: REW MODE TAKEUP REEL SERVO
S-REW: REW MODE SUPPLY REEL SERVO
CONSTANT VOLTAGE GENE
INTEGRATOR
CURRENT AMP
BUFFER
SUPPLY SW
TAKE UP SW
S·REW
T·FF
T·REW
S·FF
REW
COMPARATOR
UP/DOWN COUNTER
(SUPPLY/TAKE-UP LOGIC)
SUPPLY REEL TORQUE CONTROL
H/M/L DECORDER
CONSTANT VOLTAGE GENE
CONSTANT VOLTAGE GENE
TAKE·UP TORQUE CONTROL
R0
R1
REV
QR6
QR2
+5V
820
820
QR5 (DFF Ⓗ:ON)
Q1 (POWER ON:ON)
P2501 1
P2503 12
+5V
P2502 1
TENSION SENSOR
P2502 2
TENSION DOWN
TENSION UP
TENSION ARM
TENSION SENSOR
TENSION POST
TAPE
TENSION ARM
TENSION SENSOR
1. PLAY/SEARCH FORWARD/SLOW
2. LOAD/UNLOAD/BRAKE
3. SEARCH REVERSE
4. FF
5. REW
FE HEAD
CYLINDER MOTOR
A/C HEAD
CAPSTAN FG
M.R HEAD
CAPSTAN MOTOR
TENSION POST
P2502 2
FS2501 3
SUPPLY REEL FG HEAD
SUPPLY REEL MOTOR
TAKEUP REEL FG HEAD
TAKEUP REEL MOTOR
IC2502 1.3.23 (M1.M2.M3)
FS2503 13
IC2503 1.3.23 (M1.M2.M3)
TAKEUP REEL DRIVE
SUPPLY REEL DRIVE
FF/REW
PLAY/FORWARD SEARCH/REC
(SUPPLY REEL)
M1
M2
M3
REEL ON Ⓛ
FWD×1 Ⓛ
QR7
+5V
DELAYED POWER ON:ON
IC2 (SUPPLY REEL MOTOR DRIVE AN3830KA)
FROM SYSTEM CTL CIRCUIT
S REEL M POWER
S REEL M CTL
MOTOR SATURATION DETECT
DIFFERENTIAL AMP
DIFFERENTIAL AMP
POSITION SIGNAL PROCESS
RIPPLE CANCELLER
TORQUE CONTROL
TORQUE DERECTION CONTROL
QR8
HSP Ⓗ
(HSP:ON)
REW MODE
5Vp-p
H3+ H3- H2+ H2- H1+ H1-
REW MODE
IC2502-㉓ 5Vp-p
IC2502-③ 5Vp-p
IC2502-① 5Vp-p
REW MODE
IC2502-⑩ 65Vp-p
IC2502-⑧ 65Vp-p
IC2502-⑥ 65Vp-p
H1- P2501 6
H1+ P2501 7
H2- P2501 10
H2+ P2501 11
H3- P2501 13
H3+ P2501 15
FROM SUPPLY REEL MOTOR
FROM SYSTEM CTL CIRCUIT
S REEL PULSE
(TAKE-UP REEL)
T REEL ON Ⓛ
FWD×1 Ⓛ
(HSP Ⓗ:ON)
HSP Ⓗ
QR9
IC3 (TAKE-UP REEL MOTOR DRIVE AN3830K)
FROM SYSTEM CTL CIRCUIT
T REEL M POWER
T REEL M CTL
FROM SYSTEM CTL CIRCUIT
MOTOR SATURATION DETECT
DEFFERENTIAL AMP
DIFFERENTIAL AMP
POSITION SIGNAL PROCESS
RIPPLE CANCELLER
TORQUE CONTROL
TORQUE DIRECTION CONTROL
FF MODE
5.2Vp-p
H3+ H3- H2+ H2- H1+ H1-
FF MODE
IC2503-㉓ 6.2Vp-p
IC2503-③ 6.2Vp-p
IC2503-① 6.2Vp-p
FF MODE
IC2503-⑩ 110mVp-p
IC2503-⑧ 110mVp-p
IC2503-⑥ 110mVp-p
H3- P2503 2
H3+ P2503 3
H2- P2503 6
H2+ P2503 8
H1- P2503 10
H1+ P2503 11
FROM TAKE UP REEL MOTOR
FROM SYSTEM CTL CIRCUIT
T REEL PULSE
IC1, IC2&IC3 CONTROL SIGNAL FOR
2
3
11
12
13
15
16
17
18
19
21
23
24
25
26
27

MODE \ MOTOR	SUPPLY REEL MOTOR	TAKEUP REEL MOTOR
PLAY AND SEARCH FORWARD	THE CONSTANT TENSION IS KEPT BY THE TENSION SENSOR.	THE TORQUE IS CONTROLLED SO AS TO BE IN PROPORTION TO THE RADIUS OF THE TAKEUP REEL.
SEARCH REVERSE	THE TORQUE IS CONTROLLED SO AS TO BE IN PROPORTION TO THE RADIUS OF THE SUPPLY REEL.	THE TORQUE IS CONTROLLED SO AS TO BE IN PROPORTION TO THE RADIUS OF THE TAKEUP REEL.
FF	THE TORQUE IS CONTROLLED ACCORDING TO THE TAKEUP REEL MOTOR CURRENT.	THE SPEED CONTROL OF THE TAKEUP REEL MOTOR IS PERFORMED SO THAT THE SUM OF THE TORQUES OF BOTH REEL MOTORS IS CONSTANT.
REW	THE SPEED CONTROL OF THE SUPPLY REEL MOTOR IS PERFORMED SO THAT THE SUM OF THE TORQUES OF BOTH REEL MOTORS IN CONSTANT.	THE TORQUE IS CONTROLLED ACCORDING TO THE SUPPLY REEL MOTOR CURRENT.
SLOW	THE SAME AS PLAY MODE.	THE SAME AS PLAY MODE. BUT THE REEL RADIUS DATA IS KEPT AS THE PREVIOUS DATA.
LOADING	THE BACK TENSION IS APPLIED BY THE CONSTANT TORQUE.	MECHANICAL LOCK.
UNLOADING	THE BACK TENSION IS APPLIED BY THE CONSTANT TORQUE.	MECHANICAL LOCK.
BRAKE	FF MODE: COUNTER CLOCKWISE TORQUE. REW MODE: CLOCKWISE TORQUE.	FF MODE: COUNTER CLOCKWISE TORQUE. REW MODE: CLOCKWISE TORQUE.

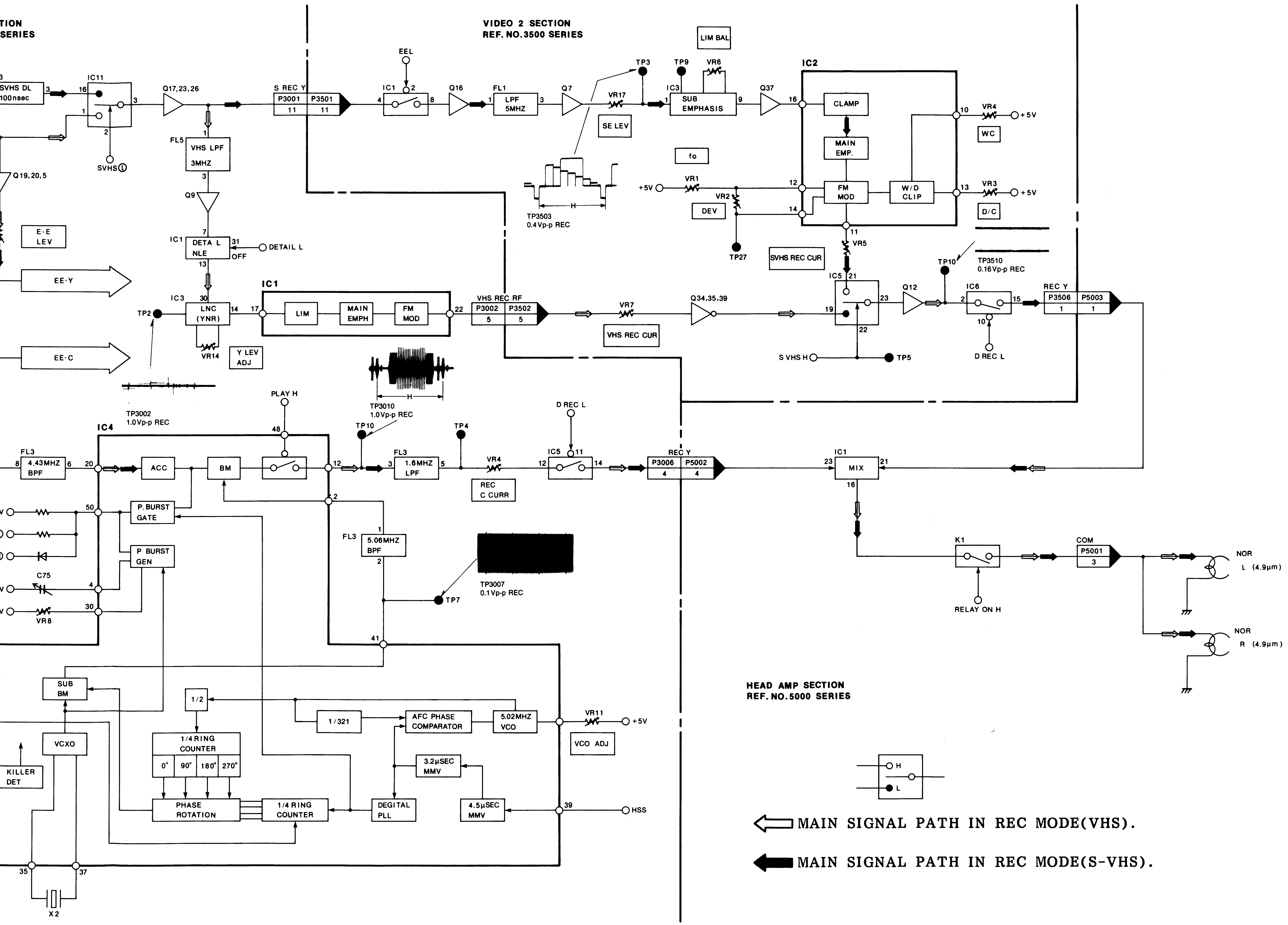
VIDEO (REC PROCESS) BLOCK DIAGRAM


VIDEO 1 SECTION
REF. NO.3000 SERIES
VIDEO 2 SECTION
REF. NO.3500 SERIES
HEAD AMP SECTION
REF. NO.5000 SERIES
FROM 68P
68P CONN.
P6801
P6805
P3003
INPUT Y
IC1
AGC
Q6
DL3
SVHS DL
100nsec
IC11
SVHS L
Q17,23,26
FL5
VHS LPF
3MHZ
Q9
DETA L
NLE
DETAIL L
OFF
IC3
LNC
(YNR)
VR14
Y LEV
ADJ
TP2
LIM
MAIN
EMPH
FM
MOD
VHS REC RF
P3002
P3502
FROM TCG
P6602
P3005
CONNECT L
VITC PULSE
Q7
Q19,20,5
VR7
VITC
LEV
VR15
E-E
LEV
EE-Y
EE-C
S REC Y
P3001
P3501
EEL
Q16
FL1
LPF
5MHZ
VR17
SE LEV
TP3
TP9
VR6
LIM BAL
SUB
EMPHASIS
Q37
IC2
CLAMP
MAIN
EMP.
FM
MOD
W/D
CLIP
VR4
WC
VR3
D/C
fo
+5V
VR1
VR2
DEV
TP27
VR5
SVHS REC CUR
TP3503
0.4Vp-p REC
TP3510
0.16Vp-
TP10
IC5
Q12
IC6
D REC L
VR7
VHS REC CUR
Q34,35,39
S VHS H
TP5
TP3002
1.0Vp-p REC
TP3010
1.0Vp-p REC
FROM 68P
68P CONN.
P6801
P6804
P3004
REC C
Q25
PLAY H
IC4
FL3
4.43MHZ
BPF
ACC
BM
1.6MHZ
LPF
TP4
VR4
REC
C CURR
D REC L
IC5
REC Y
P3006
P5002
IC1
MIX
K1
RELAY ON H
P. BURST
GATE
P BURST
GEN
+5V
CPN L
S-VHS H
PB.
PHS AD
PB.
LEV ADJ
C75
VR8
FL3
5.06MHZ
BPF
TP3007
0.1Vp-p REC
TP7
SUB
BM
1/2
1/4 RING
COUNTER
0°
90°
180°
270°
PHASE
ROTATION
1/4 RING
COUNTER
1/321
AFC PHASE
COMPARATOR
5.02MHZ
VCO
VR11
VCO ADJ
3.2μSEC
MMV
4.5μSEC
MMV
DEGITAL
PLL
HSS
ROTARY
VCXO
KILLER
DET
COLOUR
MODE SW
COLOUR
AUTO
B/W
SW1
X2
H
L

MAIN SIGNAL PATH IN R

MAIN SIGNAL PATH IN R

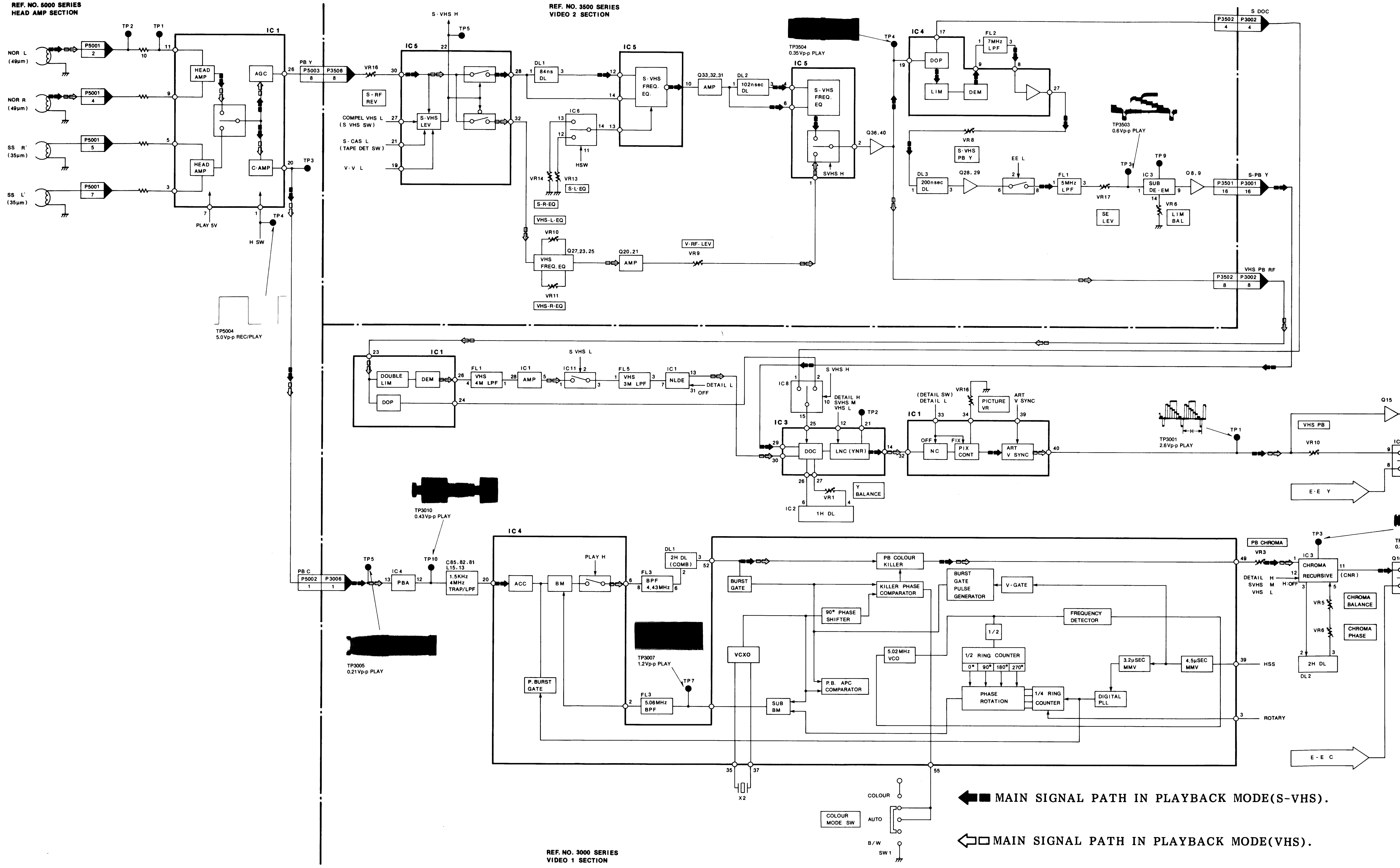
OCK DIAGRAM


TION
SERIES
VIDEO 2 SECTION
REF. NO.3500 SERIES
HEAD AMP SECTION
REF. NO.5000 SERIES
SVHS DL
100nsec
IC11
Q17,23,26
S REC Y
P3001
P3501
11
SVHS L
FL5
VHS LPF
3MHZ
Q9
Q19,20,5
E-E LEV
EE-Y
EE-C
IC1
DETA L
NLE
DETAIL L
OFF
IC3
LNC (YNR)
TP2
VR14
Y LEV ADJ
LIM
MAIN EMPH
FM MOD
VHS REC RF
P3002
P3502
TP3002
1.0Vp-p REC
TP3010
1.0Vp-p REC
EEL
Q16
FL1
LPF 5MHZ
Q7
VR17
SE LEV
TP3
TP9
VR6
LIM BAL
SUB EMPHASIS
Q37
IC2
CLAMP
MAIN EMP.
FM MOD
W/D CLIP
VR4
WC
VR3
D/C
+5V
fo
VR1
VR2
DEV
TP27
TP3503
0.4Vp-p REC
SVHS REC CUR
VR5
IC5
TP10
TP3510
0.16Vp-p REC
Q12
IC6
REC Y
P3506
P5003
VR7
VHS REC CUR
Q34,35,39
S VHS H
TP5
D REC L
IC4
PLAY H
FL3
4.43MHZ BPF
ACC
BM
1.6MHZ LPF
TP4
VR4
REC C CURR
P3006
P5002
P. BURST GATE
P BURST GEN
C75
VR8
5.06MHZ BPF
TP7
TP3007
0.1Vp-p REC
SUB BM
VCXO
KILLER DET
1/2
1/4 RING COUNTER
0° 90° 180° 270°
PHASE ROTATION
1/4 RING COUNTER
1/321
AFC PHASE COMPARATOR
5.02MHZ VCO
3.2μSEC MMV
DEGITAL PLL
4.5μSEC MMV
VR11
VCO ADJ
HSS
X2
MIX
K1
RELAY ON H
COM
P5001
NOR L (4.9μm)
NOR R (4.9μm)
H
L

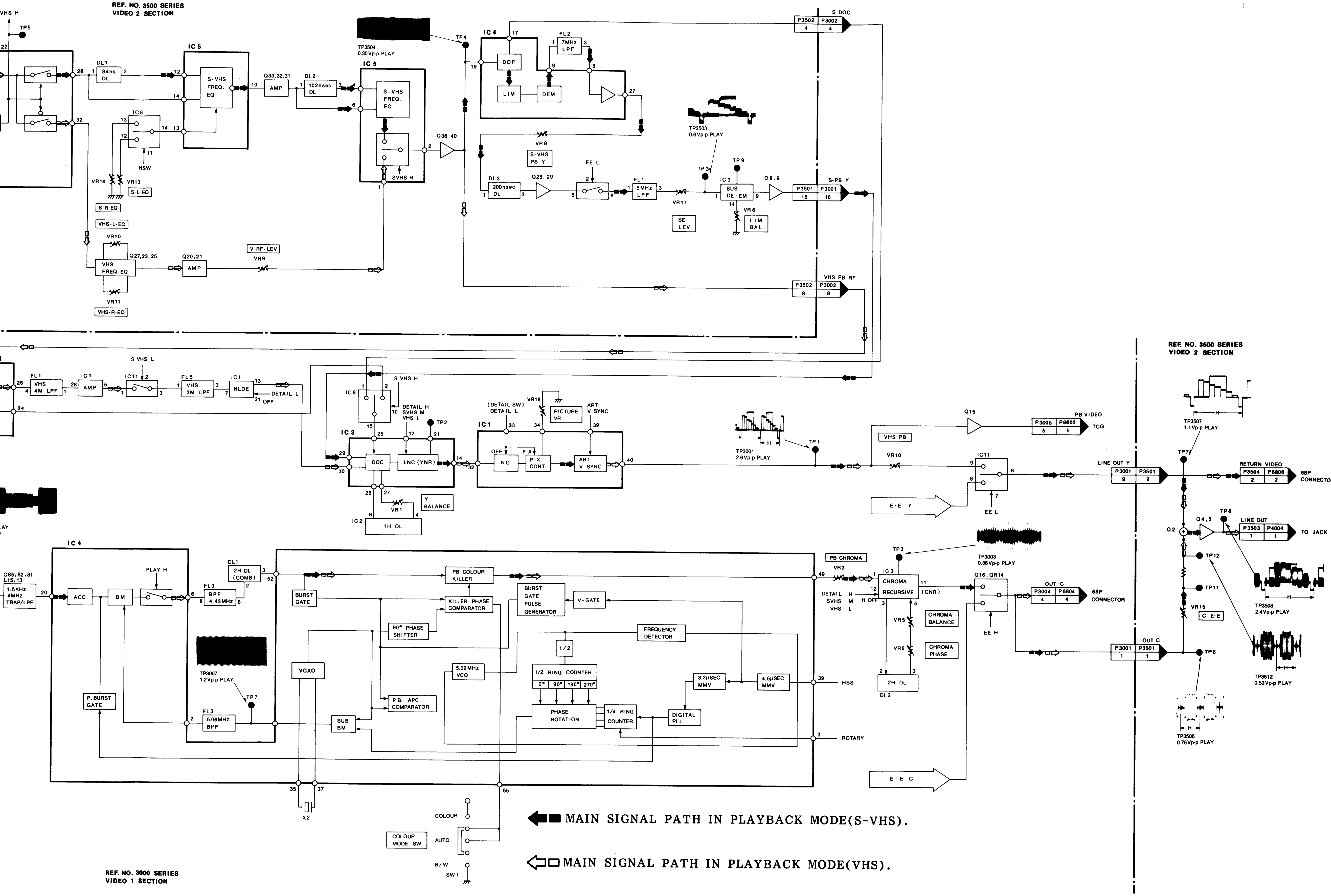
⇦ MAIN SIGNAL PATH IN REC MODE(VHS).

⬅ MAIN SIGNAL PATH IN REC MODE(S-VHS).

VIDEO (PLAYBACK PROCESS) BLOCK DIAGRAM


REF. NO. 5000 SERIES
HEAD AMP SECTION
REF. NO. 3500 SERIES
VIDEO 2 SECTION
REF. NO. 3000 SERIES
VIDEO 1 SECTION
NOR L (49μm)
NOR R (49μm)
SS R' (35μm)
SS L' (35μm)
P5001
TP2
TP1
IC1
HEAD AMP
AGC
C-AMP
PLAY 5V
H SW
TP3
TP4
TP5004
5.0Vp-p REC/PLAY
PB Y
P5003
P3506
VR16
S-RF REV
COMPEL VHS L (S VHS SW)
S-CAS L (TAPE DET SW)
V-V L
S-VHS H
TP5
IC5
S-VHS LEV
DL1
84ns DL
IC6
HSW
VR14
VR13
S-L-EQ
S-R-EQ
VHS-L-EQ
VR10
VHS FREQ. EQ
Q27,23,25
VR11
VHS-R-EQ
Q20,21
AMP
V-RF-LEV
VR9
S-VHS FREQ. EQ.
Q33,32,31
DL2
102nsec DL
TP3504
0.35Vp-p PLAY
S-VHS FREQ. EQ
SVHS H
Q36,40
IC4
DOP
LIM
DEM
FL2
7MHz LPF
VR8
S-VHS PB Y
DL3
200nsec DL
Q28,29
EE L
FL1
5MHz LPF
VR17
SE LEV
TP3503
0.6Vp-p PLAY
TP9
IC3
SUB DE-EM
VR6
LIM BAL
Q8,9
S DOC
P3502
P3002
S-PB Y
P3501
P3001
VHS PB RF
DOUBLE LIM
DOP
FL1
VHS 4M LPF
AMP
S VHS L
IC11
FL5
VHS 3M LPF
NLDE
DETAIL L
OFF
S VHS H
IC8
DETAIL H
SVHS M
VHS L
TP2
DOC
LNC (YNR)
VR1
Y BALANCE
IC2
1H DL
(DETAIL SW)
DETAIL L
VR16
PICTURE VR
ART V SYNC
NC
PIX CONT
FIX
TP3001
2.6Vp-p PLAY
TP1
VHS PB
VR10
Q15
E-E Y
TP3010
0.43Vp-p PLAY
PB C
P5002
P3006
TP5
TP10
PBA
C85,82,81
L15,13
1.5KHz 4MHz TRAP/LPF
TP3005
0.21Vp-p PLAY
ACC
BM
PLAY H
P. BURST GATE
2H DL (COMB)
FL3
BPF 4.43MHz
TP3007
1.2Vp-p PLAY
TP7
5.06MHz BPF
BURST GATE
PB COLOUR KILLER
KILLER PHASE COMPARATOR
BURST GATE PULSE GENERATOR
V-GATE
90° PHASE SHIFTER
FREQUENCY DETECTOR
1/2
VCXO
5.02MHz VCO
1/2 RING COUNTER
0° 90° 180° 270°
P.B. APC COMPARATOR
PHASE ROTATION
1/4 RING COUNTER
DIGITAL PLL
3.2μSEC MMV
4.5μSEC MMV
SUB BM
HSS
ROTARY
X2
COLOUR
AUTO
B/W
SW1
COLOUR MODE SW
PB CHROMA
VR3
CHROMA RECURSIVE
(CNR)
DETAIL H
SVHS M
VHS L
H:OFF
VR5
CHROMA BALANCE
VR6
CHROMA PHASE
2H DL
DL2
E-E C
MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).
MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).

RAM

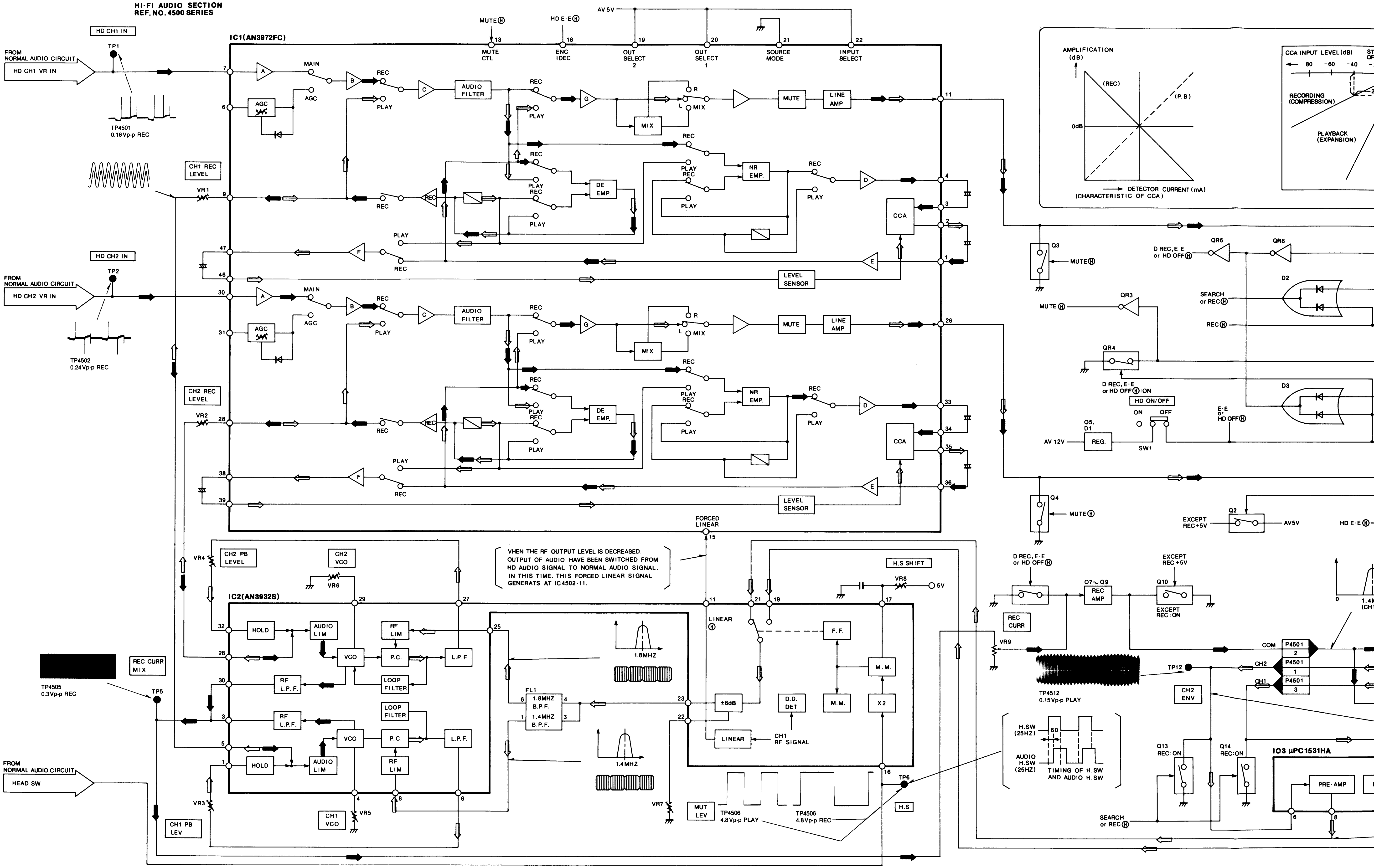

REF. NO. 3500 SERIES
VIDEO 2 SECTION
VHS H
TP5
22
28
32
DL1
84ns DL
IC5
S-VHS FREQ. EQ.
12
14
10
IC6
13
12
14 13
11
HSW
VR14
VR13
S-R-EQ
S-L-EQ
VHS-L-EQ
VR10
Q27,23,25
VHS FREQ. EQ
VR11
VHS-R-EQ
Q20,21
AMP
V-RF-LEV
VR9
Q33,32,31
AMP
DL2
102nsec DL
TP3504
0.35Vp-p PLAY
TP4
S-VHS FREQ. EQ
SVHS H
Q36,40
IC4
17
19
DOP
LIM
DEM
FL2
7MHz LPF
27
VR8
S-VHS PB Y
DL3
200nsec DL
Q28,29
EE L
FL1
5MHz LPF
VR17
SE LEV
TP3503
0.6Vp-p PLAY
TP3
TP9
IC3
SUB DE-EM
VR6
LIM BAL
Q8,9
S DOC
P3502
P3002
S-PB Y
P3501
P3001
VHS PB RF
S VHS L
FL1
VHS 4M LPF
IC1
AMP
IC11
FL5
VHS 3M LPF
NLDE
DETAIL L
OFF
S VHS H
IC8
DETAIL H
SVHS M
VHS L
TP2
IC3
DOC
LNC (YNR)
VR1
Y BALANCE
IC2
1H DL
(DETAIL SW)
DETAIL L
VR16
PICTURE VR
ART V SYNC
IC1
OFF
FIX
NC
PIX CONT
ART V SYNC
TP3001
2.6Vp-p PLAY
TP1
VHS PB
VR10
Q15
P3005
P6602
PB VIDEO
TCG
IC11
EE L
E-E Y
IC4
C85,82,81
L15,13
1.5KHz 4MHz TRAP/LPF
ACC
BM
PLAY H
DL1
2H DL (COMB)
FL3
BPF 4.43MHz
TP3007
1.2Vp-p PLAY
TP7
FL3
5.06MHz BPF
P. BURST GATE
VCXO
SUB BM
BURST GATE
PB COLOUR KILLER
KILLER PHASE COMPARATOR
90° PHASE SHIFTER
P.B. APC COMPARATOR
5.02MHz VCO
BURST GATE PULSE GENERATOR
V-GATE
FREQUENCY DETECTOR
1/2
1/2 RING COUNTER
0°
90°
180°
270°
PHASE ROTATION
1/4 RING COUNTER
DIGITAL PLL
3.2μSEC MMV
4.5μSEC MMV
HSS
ROTARY
X2
COLOUR
AUTO
B/W
SW1
COLOUR MODE SW
PB CHROMA
VR3
IC3
CHROMA RECURSIVE
(CNR)
DETAIL H
SVHS M
VHS L
H:OFF
VR5
VR6
CHROMA BALANCE
CHROMA PHASE
2H DL
DL2
TP3
TP3003
0.36Vp-p PLAY
Q16,QR14
EE H
OUT C
P3004
P6804
68P CONNECTOR
E-E C
REF. NO. 3000 SERIES
VIDEO 1 SECTION
REF. NO. 3500 SERIES
VIDEO 2 SECTION
TP3507
1.1Vp-p PLAY
TP7
LINE OUT Y
P3001
P3501
RETURN VIDEO
P3504
P6806
68P CONNECTOR
Q2
Q4,5
TP8
LINE OUT
P3503
P4004
TO JACK
TP12
TP11
VR15
C E-E
OUT C
TP6
TP3508
2.4Vp-p PLAY
TP3512
0.53Vp-p PLAY
TP3506
0.76Vp-p PLAY

◀■ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).

◁□ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).

Hi-Fi AUDIO BLOCK DIAGRAM

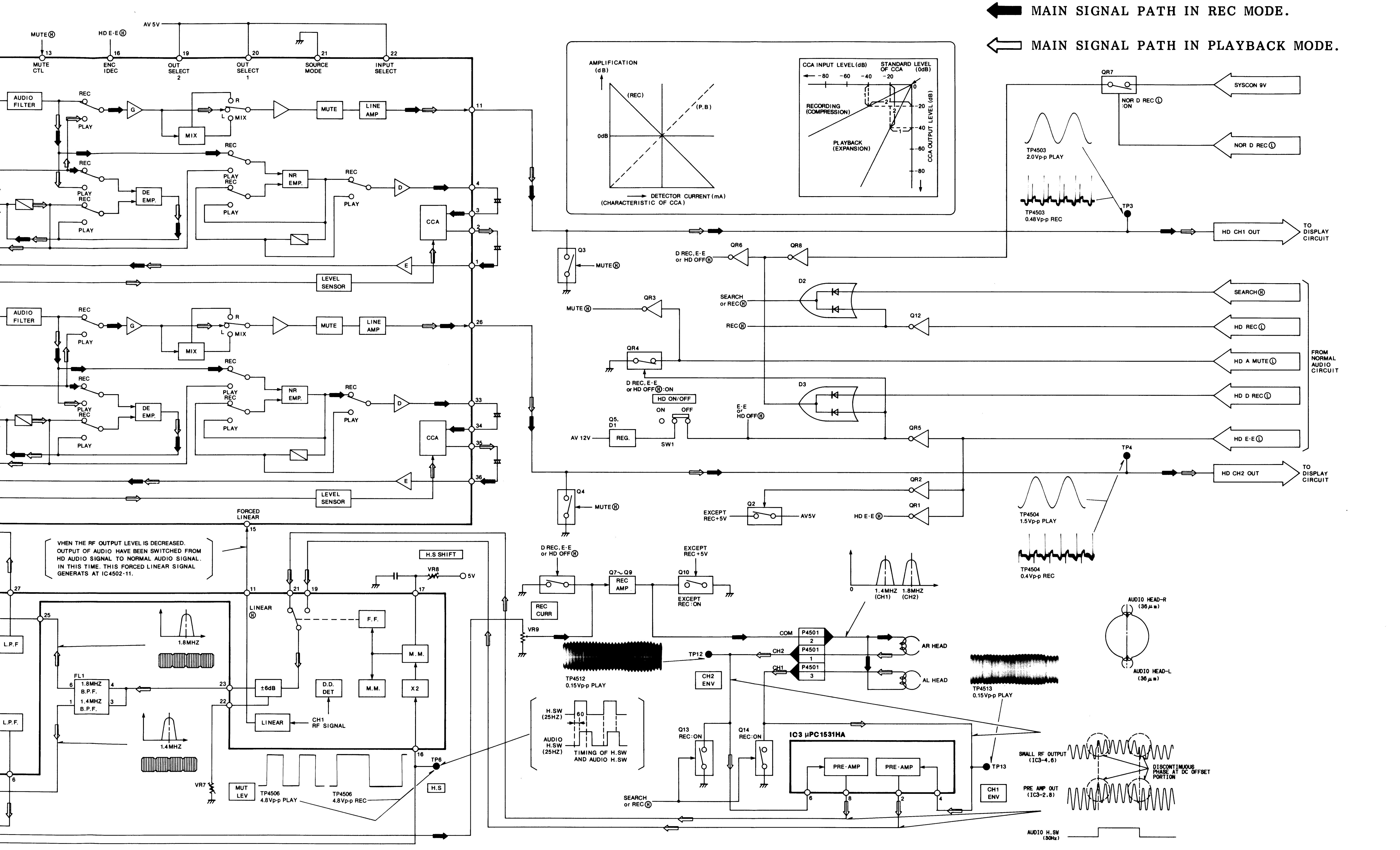
HI-FI AUDIO SECTION
REF. NO. 4500 SERIES


HD CH1 IN
TP1
FROM NORMAL AUDIO CIRCUIT
HD CH1 VR IN
TP4501
0.16Vp-p REC
IC1(AN3972FC)
MUTE Ⓗ
HD E-E Ⓗ
AV 5V
MUTE CTL
ENC IDEC
OUT SELECT 2
OUT SELECT 1
SOURCE MODE
INPUT SELECT
A
B
C
MAIN
AGC
REC
PLAY
AUDIO FILTER
G
R
L
MIX
MUTE
LINE AMP
DE EMP.
NR EMP.
D
CCA
E
F
LEVEL SENSOR
CH1 REC LEVEL
VR1
HD CH2 IN
TP2
HD CH2 VR IN
TP4502
0.24Vp-p REC
CH2 REC LEVEL
VR2
FORCED LINEAR
AMPLIFICATION (dB)
0dB
(REC)
(P.B)
DETECTOR CURRENT (mA)
(CHARACTERISTIC OF CCA)
CCA INPUT LEVEL (dB)
-80 -60 -40
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
Q3
Q4
MUTE Ⓗ
D REC, E-E or HD OFF Ⓗ
QR6
QR8
QR3
QR4
SEARCH or REC Ⓗ
REC Ⓗ
D2
D3
D REC, E-E or HD OFF Ⓗ:ON
HD ON/OFF
ON OFF
E-E or HD OFF Ⓗ
AV 12V
Q5, D1
REG.
SW1
EXCEPT REC+5V
Q2
AV5V
HD E-E Ⓗ
CH2 PB LEVEL
VR4
CH2 VCO
VR6
IC2(AN3932S)
HOLD
AUDIO LIM
RF LIM
VCO
P.C.
L.P.F
RF L.P.F.
LOOP FILTER
1.8MHZ
1.4MHZ
FL1
1.8MHZ B.P.F.
1.4MHZ B.P.F.
H.S SHIFT
VR8
5V
LINEAR Ⓗ
F.F.
M.M.
X2
±6dB
D.D. DET
LINEAR
CH1 RF SIGNAL
TP4505
0.3Vp-p REC
REC CURR MIX
TP5
FROM NORMAL AUDIO CIRCUIT
HEAD SW
VR3
CH1 PB LEV
CH1 VCO
VR5
VR7
MUT LEV
TP4506
4.8Vp-p PLAY
TP4506
4.8Vp-p REC
TP6
H.S
Q7~Q9
REC AMP
Q10
EXCEPT REC+5V
EXCEPT REC:ON
REC CURR
VR9
TP4512
0.15Vp-p PLAY
TP12
COM
CH2
CH1
P4501
CH2 ENV
H.SW (25HZ)
AUDIO H.SW (25HZ)
60
TIMING OF H.SW AND AUDIO H.SW
Q13 REC:ON
Q14 REC:ON
SEARCH or REC Ⓗ
IC3 μPC1531HA
PRE-AMP
0
1.4
(CH

VHEN THE RF OUTPUT LEVEL IS DECREASED. OUTPUT OF AUDIO HAVE BEEN SWITCHED FROM HD AUDIO SIGNAL TO NORMAL AUDIO SIGNAL. IN THIS TIME. THIS FORCED LINEAR SIGNAL GENERATS AT IC4502-11.

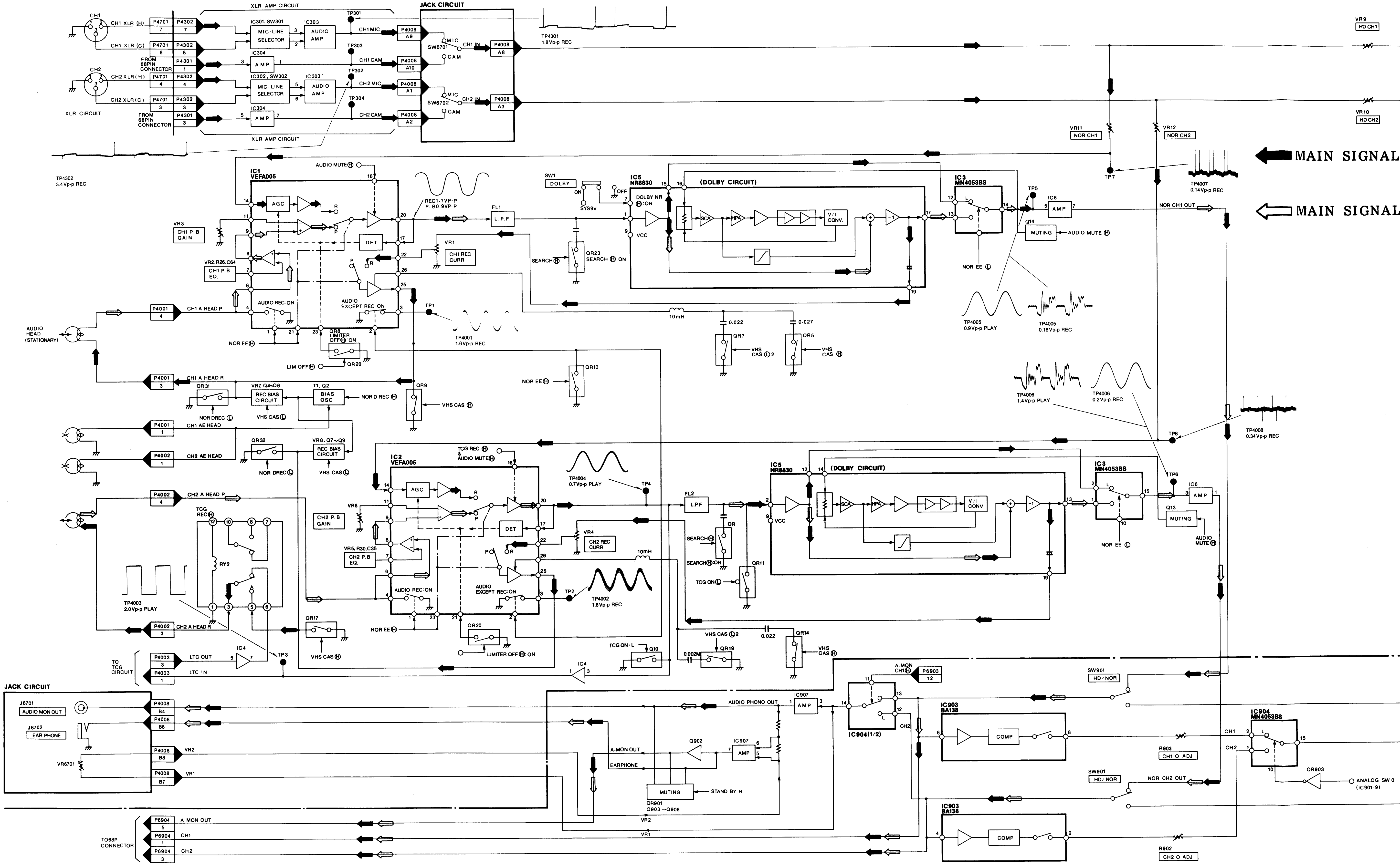
MAIN SIGNAL PATH IN REC MODE.

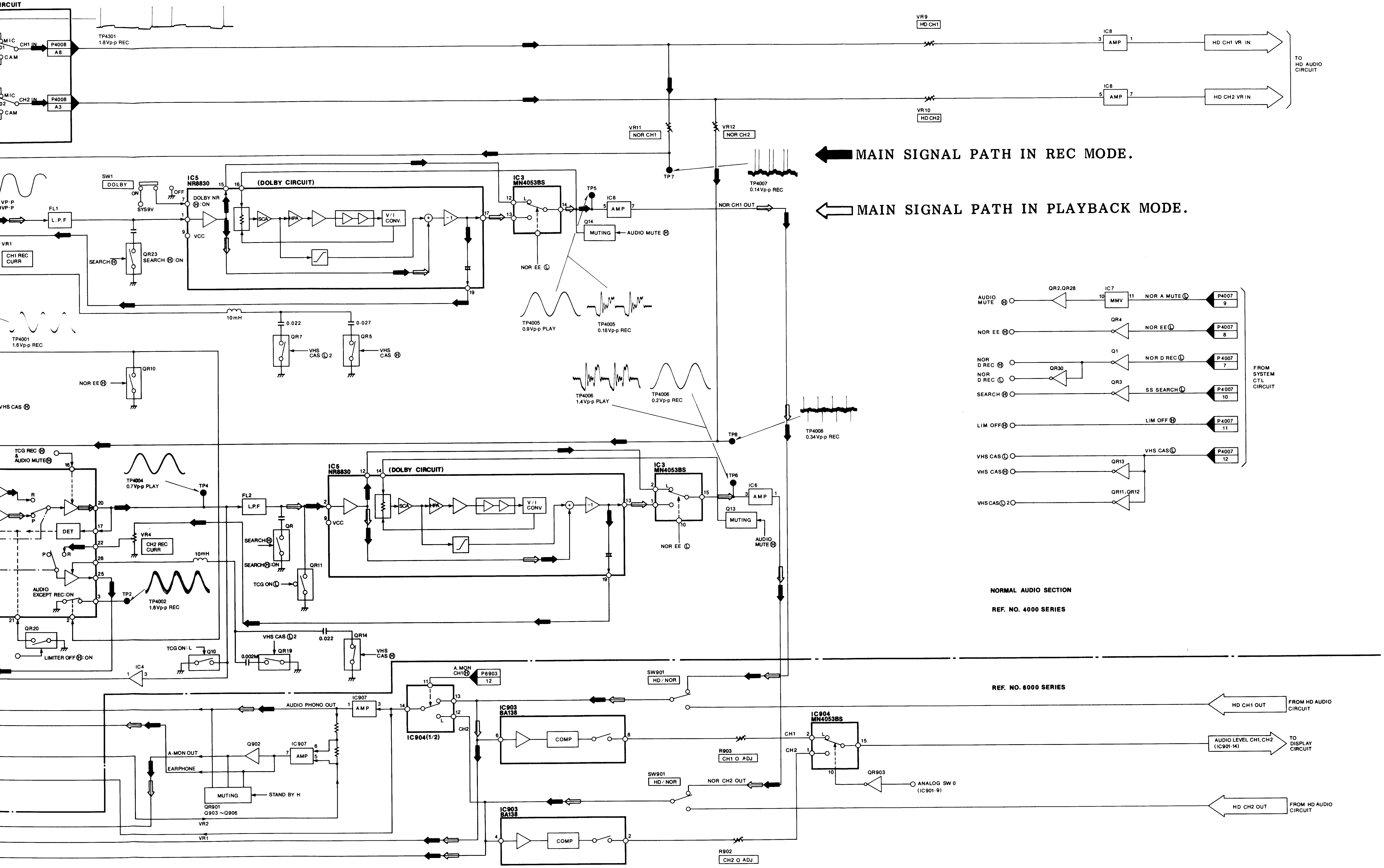
MAIN SIGNAL PATH IN PLAYBACK MODE.


MUTE Ⓗ
HD E·E Ⓗ
AV 5V
13
MUTE CTL
16
ENC IDEC
19
OUT SELECT 2
20
OUT SELECT 1
21
SOURCE MODE
22
INPUT SELECT
AUDIO FILTER
REC
PLAY
G
R
L
MIX
MUTE
LINE AMP
11
NR EMP.
DE EMP.
D
4
3
2
1
CCA
E
LEVEL SENSOR
26
33
34
35
36
FORCED LINEAR
15
AMPLIFICATION (dB)
(REC)
(P.B)
0dB
DETECTOR CURRENT (mA)
(CHARACTERISTIC OF CCA)
CCA INPUT LEVEL (dB)
-80
-60
-40
-20
STANDARD LEVEL OF CCA (0dB)
RECORDING (COMPRESSION)
PLAYBACK (EXPANSION)
CCA OUTPUT LEVEL (dB)
0
-20
-40
-60
-80
QR7
SYSCON 9V
NOR D REC Ⓛ :ON
NOR D REC Ⓛ
TP4503 2.0Vp-p PLAY
TP4503 0.48Vp-p REC
TP3
HD CH1 OUT
TO DISPLAY CIRCUIT
Q3
MUTE Ⓗ
D REC, E·E or HD OFF Ⓗ
QR6
QR8
D2
SEARCH or REC Ⓗ
SEARCH Ⓗ
QR3
REC Ⓗ
Q12
HD REC Ⓛ
QR4
HD A MUTE Ⓛ
FROM NORMAL AUDIO CIRCUIT
D REC, E·E or HD OFF Ⓗ :ON
HD ON/OFF
ON
OFF
D3
HD D REC Ⓛ
E·E or HD OFF Ⓗ
Q5, D1
AV 12V
REG.
SW1
QR5
HD E·E Ⓛ
TP4
HD CH2 OUT
TO DISPLAY CIRCUIT
Q4
MUTE Ⓗ
QR2
Q2
EXCEPT REC+5V
AV5V
QR1
HD E·E Ⓗ
TP4504 1.5Vp-p PLAY
TP4504 0.4Vp-p REC
27
25
L.P.F
1.8MHZ
FL1
1.8MHZ B.P.F.
1.4MHZ B.P.F.
6
4
1
3
1.4MHZ
L.P.F.
6
11
LINEAR Ⓗ
21
19
H.S SHIFT
VR8
5V
17
F.F.
M.M.
23
22
±6dB
D.D. DET
M.M.
X2
LINEAR
CH1 RF SIGNAL
16
TP6
VR7
MUT LEV
TP4506 4.8Vp-p PLAY
TP4506 4.8Vp-p REC
H.S
H.SW (25HZ)
60
AUDIO H.SW (25HZ)
TIMING OF H.SW AND AUDIO H.SW
D REC, E·E or HD OFF Ⓗ
REC CURR
Q7~Q9
REC AMP
EXCEPT REC+5V
Q10
EXCEPT REC:ON
VR9
TP4512 0.15Vp-p PLAY
TP12
CH2 ENV
COM
P4501
2
CH2
1
CH1
3
0
1.4MHZ (CH1)
1.8MHZ (CH2)
AR HEAD
AL HEAD
TP4513 0.15Vp-p PLAY
Q13 REC:ON
Q14 REC:ON
IC3 μPC1531HA
PRE·AMP
PRE·AMP
6
8
2
4
TP13
CH1 ENV
SEARCH or REC Ⓗ
AUDIO HEAD-R (36μm)
AUDIO HEAD-L (36μm)
SMALL RF OUTPUT (IC3-4.6)
PRE AMP OUT (IC3-2.8)
DISCONTINUOUS PHASE AT DC OFFSET PORTION
AUDIO H.SW (30Hz)

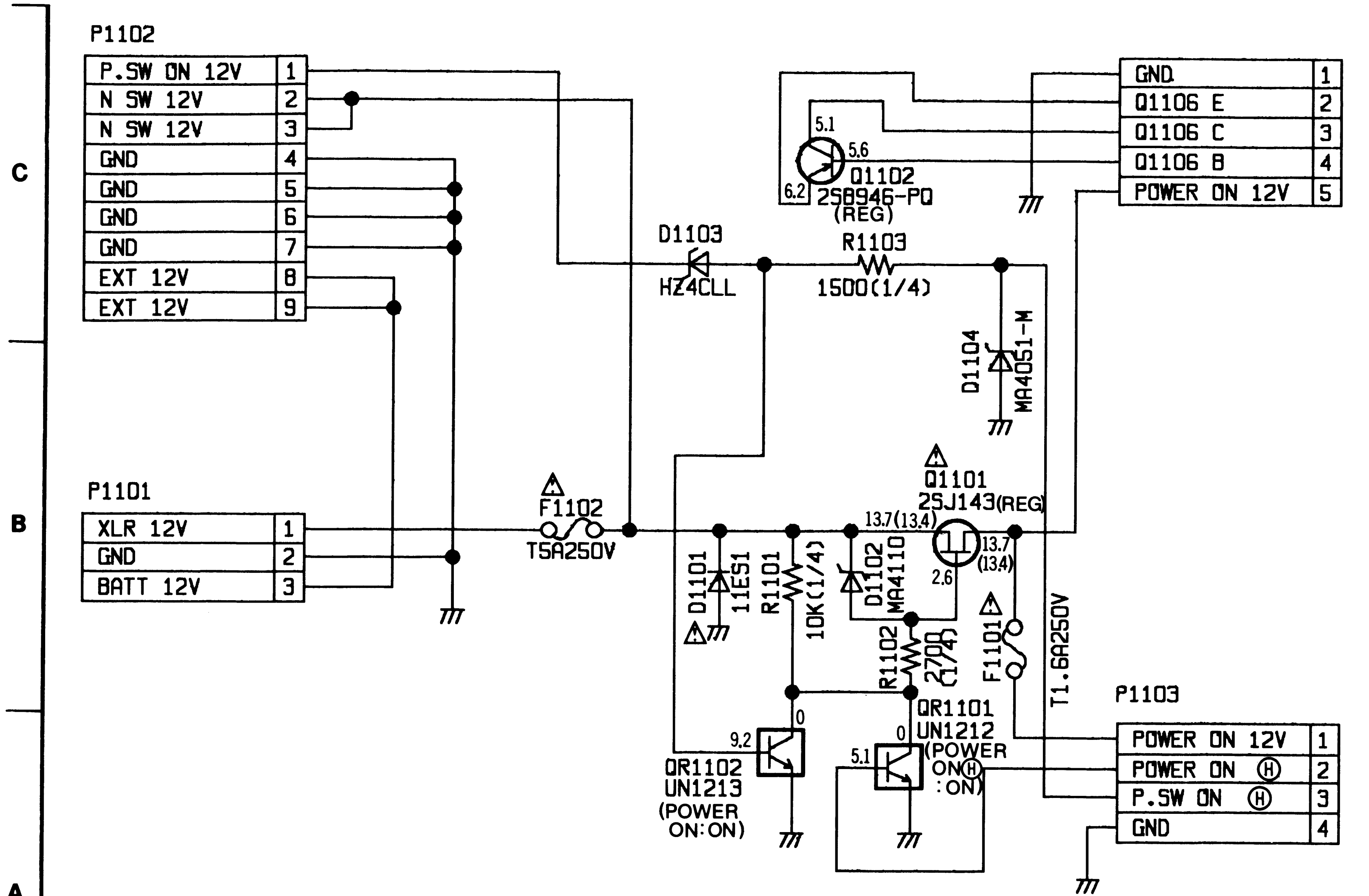
VHEN THE RF OUTPUT LEVEL IS DECREASED. OUTPUT OF AUDIO HAVE BEEN SWITCHED FROM HD AUDIO SIGNAL TO NORMAL AUDIO SIGNAL. IN THIS TIME. THIS FORCED LINEAR SIGNAL GENERATS AT IC4502-11.

NORMAL AUDIO BLOCK DIAGRAM


XLR AMP CIRCUIT
JACK CIRCUIT
CH1
CH1 XLR (H)
CH1 XLR (C)
P4701
P4302
P4301
FROM 68PIN CONNECTOR
CH2
CH2 XLR (H)
CH2 XLR (C)
XLR CIRCUIT
IC301, SW301
MIC·LINE SELECTOR
IC303
AUDIO AMP
IC304
AMP
IC302, SW302
TP301
TP302
TP303
TP304
CH1 MIC
CH1 CAM
CH2 MIC
CH2 CAM
P4008
SW6701
SW6702
MIC
CAM
CH1 IN
CH2 IN
TP4301
1.8Vp-p REC
TP4302
3.4Vp-p REC
AUDIO MUTE Ⓗ
IC1
VEFA005
AGC
DET
REC1·1VP-P
P: B0·9VP-P
FL1
L.P.F
VR1
CH1 REC CURR
VR3
CH1 P.B GAIN
VR2, R26, C64
CH1 P.B EQ.
AUDIO REC:ON
AUDIO EXCEPT REC:ON
TP1
TP4001
1.6Vp-p REC
QR8
LIMITER OFF Ⓗ:ON
QR20
LIM OFF Ⓗ
NOR EE Ⓗ
AUDIO HEAD (STATIONARY)
P4001
CH1 A HEAD P
CH1 A HEAD R
QR31
VR7, Q4~Q6
REC BIAS CIRCUIT
T1, Q2
BIAS OSC
NOR D REC Ⓗ
NOR DREC Ⓛ
VHS CAS Ⓛ
QR9
VHS CAS Ⓗ
QR10
NOR EE Ⓗ
CH1 AE HEAD
CH2 AE HEAD
P4002
QR32
VR8, Q7~Q9
SW1
DOLBY
ON
OFF
SYS9V
QR23
SEARCH Ⓗ:ON
SEARCH Ⓗ
IC5
NR8830
DOLBY NR Ⓗ:ON
VCC
(DOLBY CIRCUIT)
SCA
HPA
V/I CONV.
10mH
0.022
0.027
QR7
QR5
VHS CAS Ⓛ2
VHS CAS Ⓗ
IC3
MN4053BS
TP5
IC6
AMP
Q14
MUTING
AUDIO MUTE Ⓗ
NOR EE Ⓛ
TP4005
0.9Vp-p PLAY
TP4005
0.18Vp-p REC
VR9
HD CH1
VR10
HD CH2
VR11
NOR CH1
VR12
NOR CH2
TP7
TP4007
0.14Vp-p REC
MAIN SIGNAL
MAIN SIGNAL
NOR CH1 OUT
TP4006
1.4Vp-p PLAY
TP4006
0.2Vp-p REC
TP8
TP4008
0.34Vp-p REC
TP6
Q13
IC2
VEFA005
TCG REC Ⓗ & AUDIO MUTE Ⓗ
VR6
CH2 P.B GAIN
VR5, R30, C35
CH2 P.B EQ.
VR4
CH2 REC CURR
TP4004
0.7Vp-p PLAY
TP4
TP2
TP4002
1.8Vp-p REC
FL2
CH2 A HEAD P
CH2 A HEAD R
TCG REC Ⓗ
RY2
TP4003
2.0Vp-p PLAY
QR17
QR20
LIMITER OFF Ⓗ:ON
QR11
QR14
TCG ON Ⓛ
TCG ON : L
Q10
QR19
0.002M
NOR CH2 OUT
TP3
IC4
LTC OUT
LTC IN
TO TCG CIRCUIT
P4003
J6701
AUDIO MON OUT
J6702
EAR PHONE
VR6701
B4
B6
B8
B7
VR2
VR1
AUDIO PHONO OUT
IC907
AMP
A.MON OUT
EARPHONE
Q902
MUTING
STAND BY H
QR901
Q903~Q906
A. MON CH1 Ⓗ
P6903
IC904(1/2)
IC903
BA138
COMP
SW901
HD/NOR
R903
CH1 O ADJ
R902
CH2 O ADJ
IC904
MN4053BS
QR903
ANALOG SW 0 (IC901-9)
P6904
A.MON OUT
TO68P CONNECTOR


RCUIT
MIC
CAM
CH1 IN
CH2 IN
P4008
A8
A3
TP4301
1.8Vp-p REC
VR9
HD CH1
VR10
HD CH2
IC8
AMP
HD CH1 VR IN
HD CH2 VR IN
TO HD AUDIO CIRCUIT
VR11
NOR CH1
VR12
NOR CH2
TP7
TP4007
0.14Vp-p REC
MAIN SIGNAL PATH IN REC MODE.
MAIN SIGNAL PATH IN PLAYBACK MODE.
SW1
DOLBY
ON
OFF
SYS9V
IC5
NR8830
DOLBY NR Ⓗ:ON
(DOLBY CIRCUIT)
SCA
HPA
V/I CONV.
IC3
MN4053BS
TP5
IC6
AMP
Q14
MUTING
AUDIO MUTE Ⓗ
NOR CH1 OUT
NOR EE Ⓛ
FL1
L.P.F
VCC
VR1
CH1 REC CURR
SEARCH Ⓗ
QR23
SEARCH Ⓗ:ON
10mH
0.022
0.027
QR7
VHS CAS Ⓛ2
QR5
VHS CAS Ⓗ
TP4005
0.9Vp-p PLAY
TP4005
0.18Vp-p REC
TP4001
1.6Vp-p REC
QR10
NOR EE Ⓗ
VHS CAS Ⓗ
TP4006
1.4Vp-p PLAY
TP4006
0.2Vp-p REC
TP8
TP4008
0.34Vp-p REC
TP6
TCG REC Ⓗ &
AUDIO MUTE Ⓗ
TP4004
0.7Vp-p PLAY
TP4
FL2
L.P.F
IC5
NR8830
(DOLBY CIRCUIT)
SCA
HPA
V/I CONV
IC3
MN4053BS
IC6
AMP
Q13
MUTING
AUDIO MUTE Ⓗ
NOR EE Ⓛ
DET
VR4
CH2 REC CURR
SEARCH Ⓗ
QR
SEARCH Ⓗ:ON
QR11
TCG ON Ⓛ
10mH
AUDIO EXCEPT REC:ON
TP2
TP4002
1.8Vp-p REC
QR20
LIMITER OFF Ⓗ:ON
TCG ON: L
Q10
VHS CAS Ⓛ2
QR19
0.002M
0.022
QR14
VHS CAS Ⓗ
IC4
QR2,QR28
IC7
MMV
AUDIO MUTE Ⓗ
NOR A MUTE Ⓛ
P4007
9
QR4
NOR EE Ⓗ
NOR EE Ⓛ
8
Q1
NOR D REC Ⓗ
NOR D REC Ⓛ
QR30
NOR D REC Ⓛ
7
QR3
SEARCH Ⓗ
SS SEARCH Ⓛ
10
LIM OFF Ⓗ
LIM OFF Ⓗ
11
VHS CAS Ⓛ
VHS CAS Ⓛ
12
QR13
VHS CAS Ⓗ
QR11,QR12
VHS CAS Ⓛ 2
FROM SYSTEM CTL CIRCUIT
NORMAL AUDIO SECTION
REF. NO. 4000 SERIES
REF. NO. 6000 SERIES
A.MON CH1 Ⓗ
P6903
12
SW901
HD/NOR
IC907
AMP
AUDIO PHONO OUT
IC904(1/2)
CH2
IC903
BA138
COMP
HD CH1 OUT
FROM HD AUDIO CIRCUIT
A-MON OUT
EARPHONE
Q902
IC907
AMP
MUTING
STAND BY H
QR901
Q903~Q906
VR2
VR1
R903
CH1 O ADJ
CH1
CH2
IC904
MN4053BS
AUDIO LEVEL CH1,CH2 (IC901-14)
TO DISPLAY CIRCUIT
QR903
ANALOG SW 0 (IC901-9)
SW901
HD/NOR
NOR CH2 OUT
HD CH2 OUT
FROM HD AUDIO CIRCUIT
IC903
BA138
COMP
R902
CH2 O ADJ

POWER (1) SCHEMATIC DIAGRAM

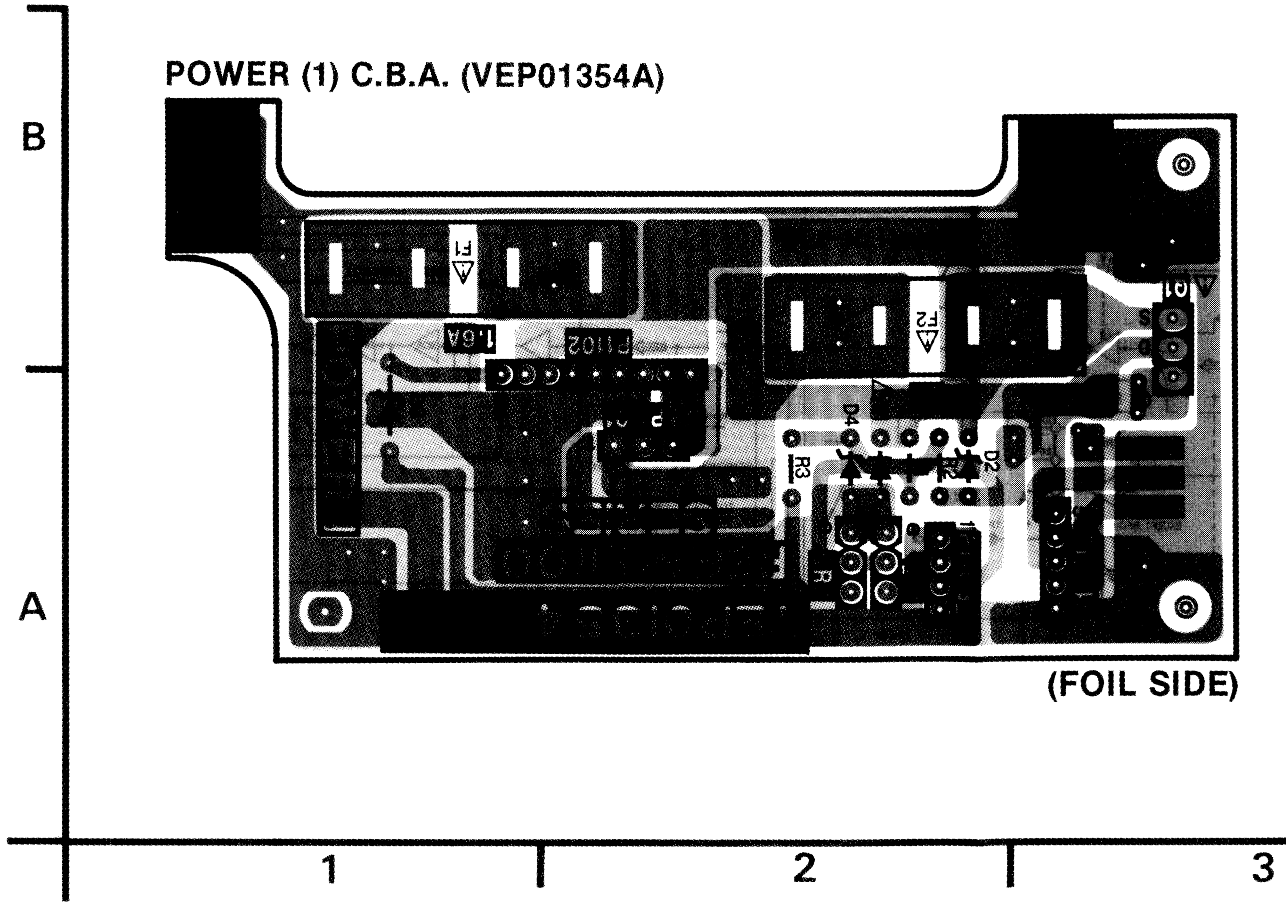

P1102
P.SW ON 12V 1
N SW 12V 2
N SW 12V 3
GND 4
GND 5
GND 6
GND 7
EXT 12V 8
EXT 12V 9
GND 1
Q1106 E 2
Q1106 C 3
Q1106 B 4
POWER ON 12V 5
5.1
5.6
6.2
Q1102
2SB946-PQ
(REG)
D1103
HZ4CLL
R1103
150Ω(1/4)
D1104
MA4051-M
Q1101
2SJ143(REG)
13.7(13.4)
13.7
(13.4)
2.6
P1101
XLR 12V 1
GND 2
BATT 12V 3
F1102
T5A250V
D1101
11ES1
R1101
10K(1/4)
D1102
MA4110
R1102
270Ω
(1/4)
F1101
T1.6A250V
P1103
POWER ON 12V 1
POWER ON Ⓗ 2
P.SW ON Ⓗ 3
GND 4
QR1101
UN1212
(POWER
ON Ⓗ
:ON)
QR1102
UN1213
(POWER
ON:ON)
9.2
0
5.1
0
C
B
A

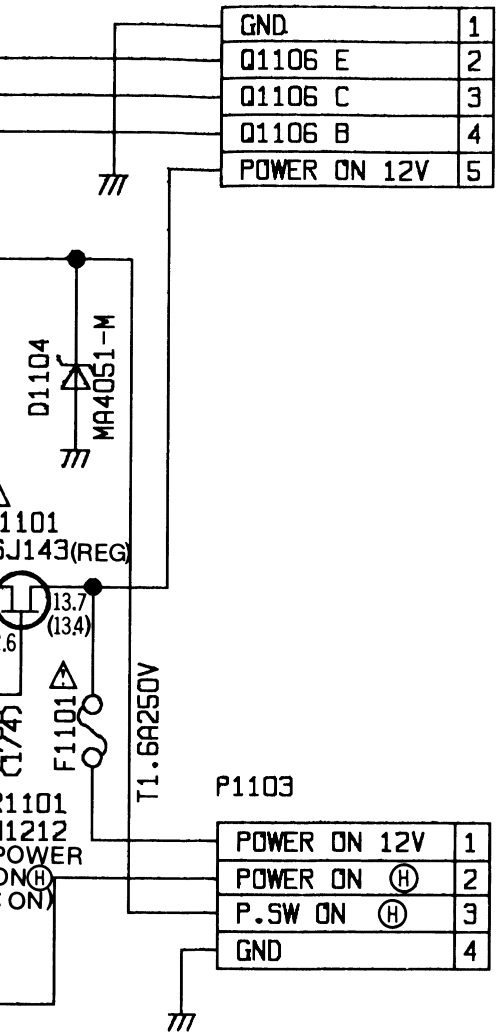
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

REF. NO. 1100 SERIES

POWER (1) C.B.A. (VEP01354A)


POWER (1) C.B.A. (VEP01354A)
B
A
F1
F2
T1.6A
P1102
Q1
D4
D2
R3
(FOIL SIDE)
1
2
3


GND 1
Q1106 E 2
Q1106 C 3
Q1106 B 4
POWER ON 12V 5
D1104
MA4051-M
1101
J143(REG)
13.7
(13.4)
.6
F1101
T1.6A250V
21101
11212
POWER
P1103
POWER ON 12V 1
POWER ON Ⓗ 2
P.SW ON Ⓗ 3
GND 4

M IS REC MODE.
AM IS STOP

1100 SERIES

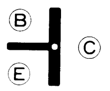
3	4

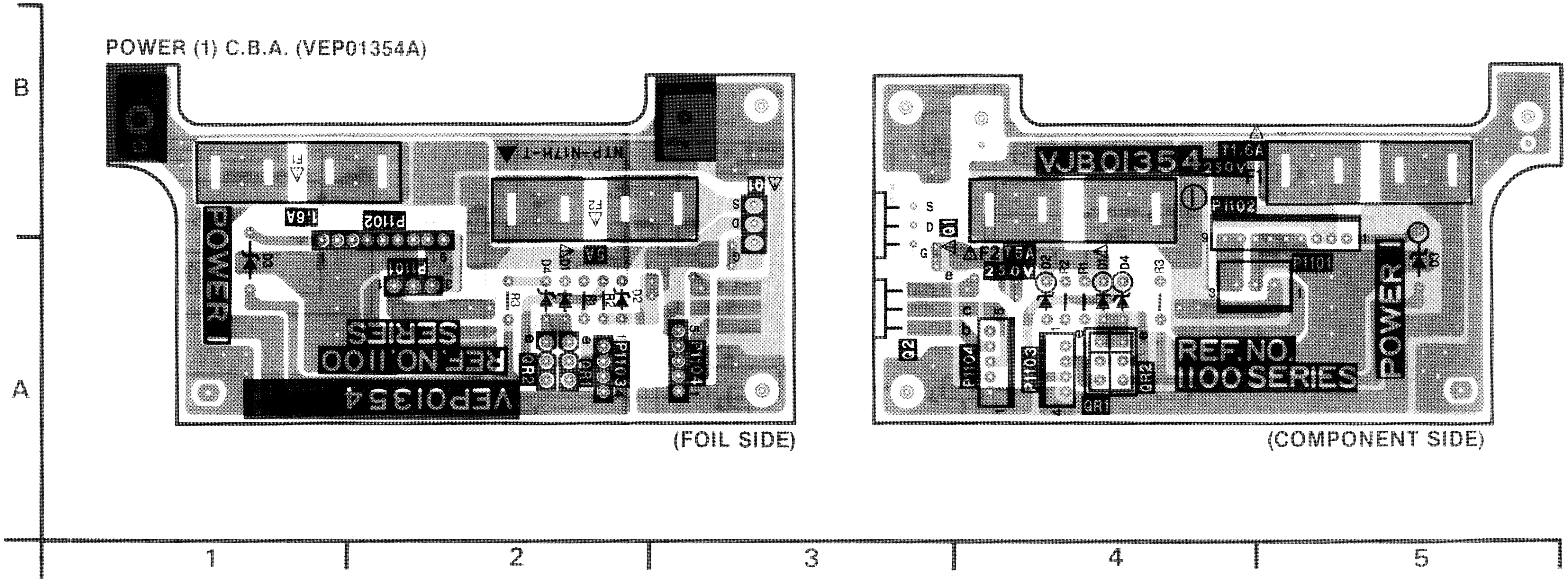
POWER (1) C.B.A. (VEP01354A)

POWER (1) C.B.A.	
Transistors	
Q1101	B-3 Ⓕ
Q1101	B-4 Ⓒ
Q1102	A-3 Ⓒ
Transistor & Resistor	
QR1101	A-2 Ⓕ
QR1101	A-4 Ⓒ
QR1102	A-2 Ⓕ
QR1102	A-4 Ⓒ
Connectors	
P1101	A-2 Ⓕ
P1101	A-5 Ⓒ
P1102	B-2 Ⓕ
P1102	B-4 Ⓒ
P1103	A-2 Ⓕ
P1103	A-4 Ⓒ
P1104	A-3 Ⓕ
P1104	A-4 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION

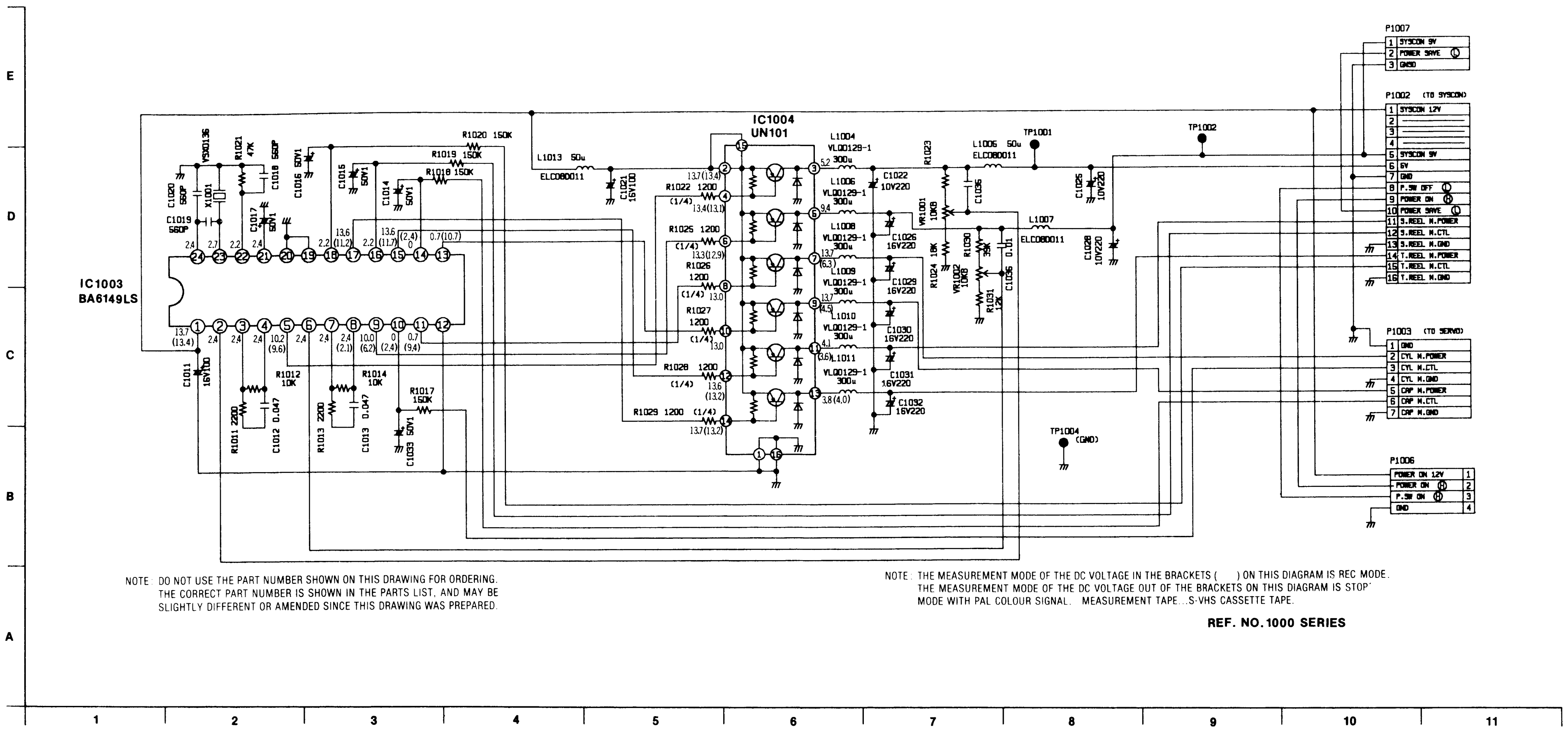



POWER (1) C.B.A. (VEP01354A)
B
A
1
2
3
4
5
POWER
1.6A
P1102
P1101
F1
F2
5A
NTP-N17H-T
Q1
S
D
G
D1
D2
D3
D4
R1
R2
R3
QR1
QR2
P1103
P1104
REF.NO.1100 SERIES
VEP01354
VJB01354
T1.6A 250V
T5A 250V
Q2
REF.NO. 1100 SERIES

(FOIL SIDE)

(COMPONENT SIDE)

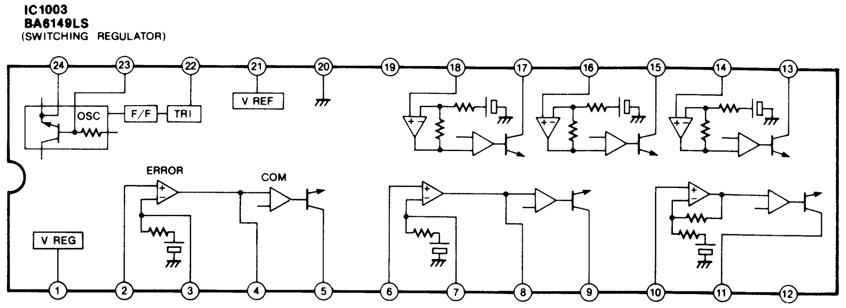
POWER (2) SCHEMATIC DIAGRAM


IC1003
BA6149LS
IC1004
UN101
P1007
SYSCON 9V
POWER SAVE Ⓛ
GND
P1002 (TO SYSCON)
SYSCON 12V
SYSCON 9V
5V
GND
P.5V OFF Ⓛ
POWER ON Ⓗ
POWER SAVE Ⓛ
S.REEL M.POWER
S.REEL M.CTL
S.REEL M.GND
T.REEL M.POWER
T.REEL M.CTL
T.REEL M.GND
P1003 (TO SERVO)
GND
CYL M.POWER
CYL M.CTL
CYL M.GND
CAP M.POWER
CAP M.CTL
CAP M.GND
P1006
POWER ON 12V
POWER ON Ⓗ
P.5V ON Ⓗ
GND
TP1001
TP1002
TP1004 (GND)
L1013 50u ELC080011
L1004 VLQ0129-1 300u
L1006 VLQ0129-1 300u
L1008 VLQ0129-1 300u
L1009 VLQ0129-1 300u
L1010 VLQ0129-1 300u
L1011 VLQ0129-1 300u
L1005 50u ELC080011
L1007 ELC080011
R1020 150K
R1019 150K
R1018 150K
R1022 1200
R1025 1200
R1026 1200
R1027 1200
R1028 1200
R1029 1200
R1012 10K
R1014 10K
R1017 150K
R1011 2200
R1013 2200
C1012 0.047
C1013 0.047
VR1001 10KB
VR1002 10KB
X1001
1 2 3 4 5 6 7 8 9 10 11
A B C D E

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

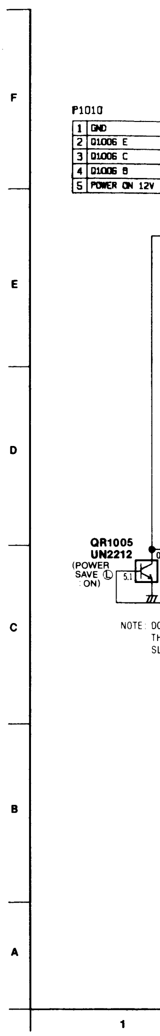
REF. NO. 1000 SERIES


IC1003
BA6149LS
(SWITCHING REGULATOR)
OSC
F/F
TRI
V REF
ERROR
COM
V REG

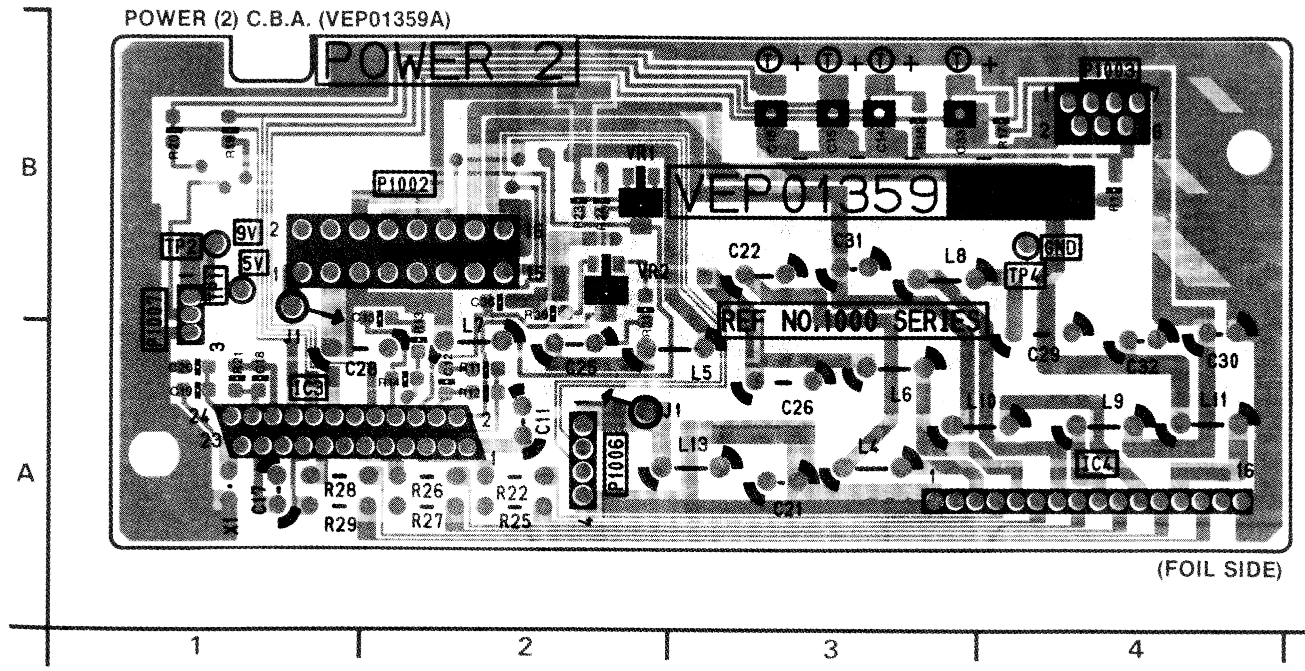
POWER (2) C.B.A.			
Integrated Circuits		**Adjustments**	
IC1003	A-1 Ⓕ	VR1001	B-2 Ⓕ
IC1003	A-8 Ⓒ	VR1002	B-2 Ⓕ
IC1004	A-1 Ⓕ	**Connectors**	
IC1004	A-5 Ⓒ	P1002	B-2 Ⓕ
Test Points		P1002	B-8 Ⓒ
TP1001	B-1 Ⓕ	P1003	B-7 Ⓕ
TP1001	B-8 Ⓒ	P1003	B-5 Ⓒ
TP1002	B-1 Ⓕ	P1006	A-1 Ⓕ
TP1002	B-8 Ⓒ	P1006	A-7 Ⓒ
TP1004 (GND)	B-4 Ⓕ	P1007	A-1 Ⓕ
TP1004 (GND)	B-6 Ⓒ	P1007	B-8 Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

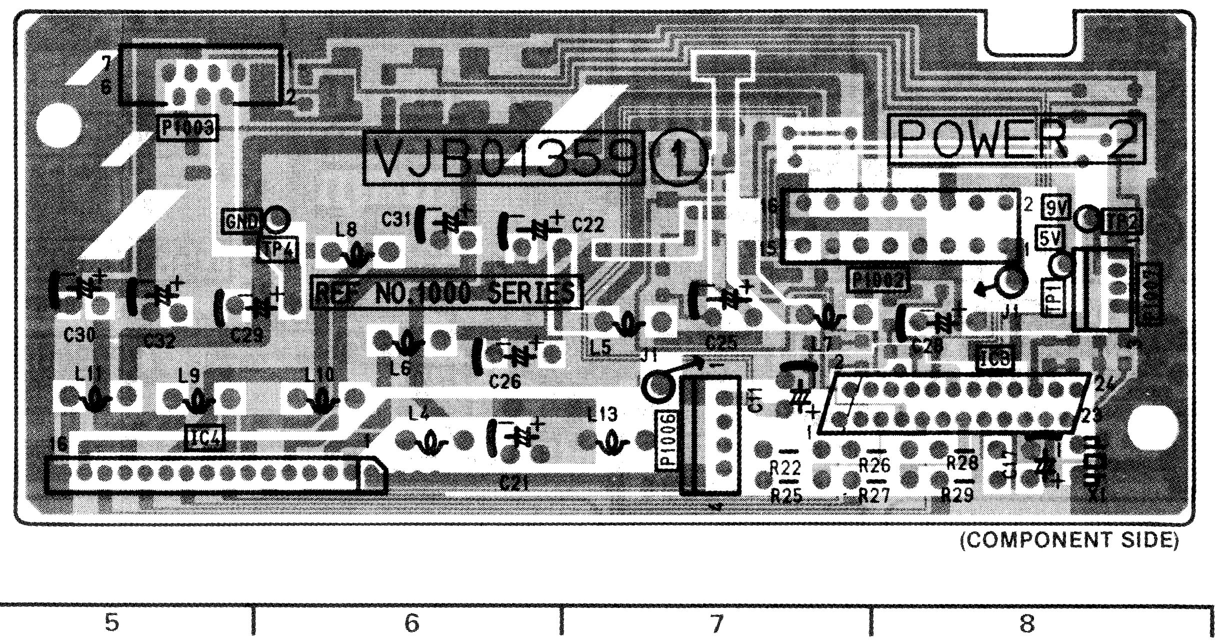
POWE



POWER (2) C.B.A. (VEP01359A)

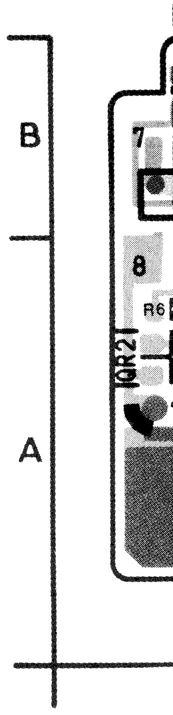

POWER (2) C.B.A. (VEP01359A)
POWER 2
VEP01359
REF NO.1000 SERIES
P1002
P1003
P1006
P1007
IC3
IC4
9V
5V
GND
TP4
VR1
VR2
C22
C31
C21
C26
C29
C32
C30
L5
L6
L8
L9
L11
L13
R22
R25
R26
R27
R28
R29
J1
B
A
1
2
3
4

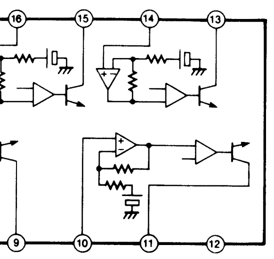
(FOIL SIDE)


VJB01359 ①
POWER 2
REF NO.1000 SERIES
P1003
P1002
P1006
P1007
IC3
IC4
GND
TP4
TP1
9V
5V
C31
C22
C30
C32
C29
C25
C26
C21
C28
C11
L8
L11
L9
L10
L6
L5
L4
L13
L7
J1
R22
R25
R26
R27
R28
R29
5
6
7
8

(COMPONENT SIDE)

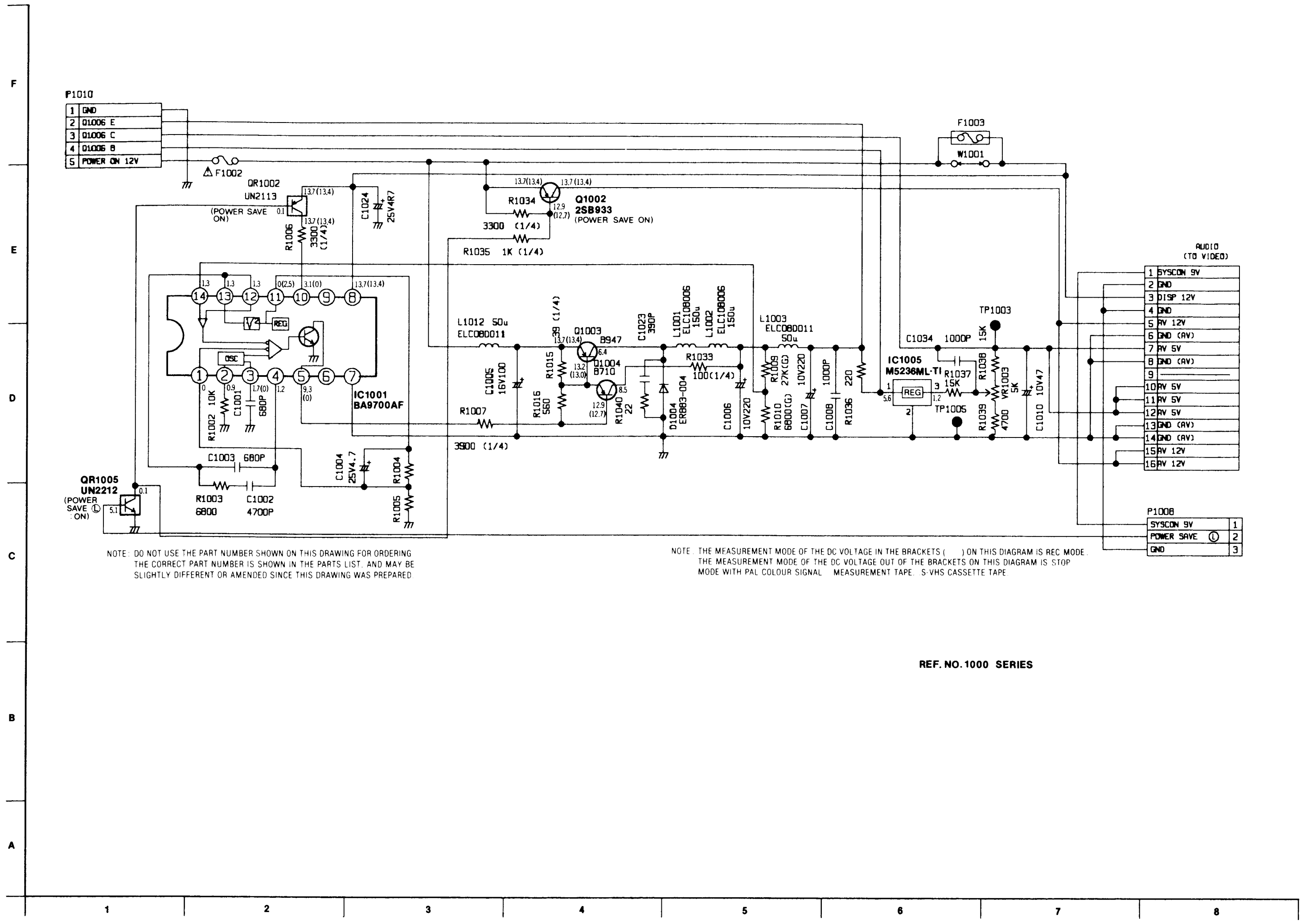
POWE





	B-2 Ⓕ B-2 Ⓕ
	B-2 Ⓕ B-8 Ⓒ B-7 Ⓕ B-5 Ⓒ A-1 Ⓕ A-7 Ⓒ A-1 Ⓕ B-8 Ⓒ

POWER (3) SCHEMATIC DIAGRAM


F
E
D
C
B
A
1
2
3
4
5
6
7
8
P1010
1 GND
2 Q1006 E
3 Q1006 C
4 Q1006 B
5 POWER ON 12V
F1002
QR1002
UN2113
(POWER SAVE ON)
R1006 3300 (1/4)
C1024 25V4R7
R1034
Q1002
2SB933
(POWER SAVE ON)
3300 (1/4)
R1035 1K (1/4)
F1003
W1001
IC1001
BA9700AF
OSC
REG
R1002 10K
C1001 680P
C1003 680P
R1003 6800
C1002 4700P
C1004 25V4.7
R1004
R1005
QR1005
UN2212
(POWER SAVE Ⓛ : ON)
L1012 50u
ELC08D011
C1005 16V100
R1007
3900 (1/4)
R1015
R1016 560
Q1003
B947
Q1004
B710
R1040 22
D1004
ERB83-004
C1023 390P
L1001 ELC1080006 150u
L1002 ELC1080006 150u
R1033 100 (1/4)
C1006 10V220
R1010 6800 (G)
R1009 27K (G)
C1007 10V220
C1008 1000P
R1036 220
L1003 ELC08D011 50u
C1034 1000P
IC1005
M5236ML-TI
R1037 15K
TP1005
R1038 15K
TP1003
VR1003 5K
R1039 4700
C1010 10V47
AUDIO (TO VIDEO)
1 SYSCON 9V
2 GND
3 DISP 12V
4 GND
5 AV 12V
6 GND (AV)
7 AV 5V
8 GND (AV)
9
10 AV 5V
11 AV 5V
12 AV 5V
13 GND (AV)
14 GND (AV)
15 AV 12V
16 AV 12V
P1008
SYSCON 9V 1
POWER SAVE Ⓛ 2
GND 3

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

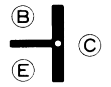
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE: S-VHS CASSETTE TAPE.

REF. NO. 1000 SERIES

POWER (3) C.B.A.			
Transistors		**Adjustment**	
Q1002 Q1002 Q1003 Q1003 Q1004	A-1 Ⓕ B-6 Ⓒ A-3 Ⓕ A-4 Ⓒ A-3 Ⓕ	VR1003	A-5 Ⓒ
Transistor & Resistor		**Connectors**	
QR1002 QR1005	A-1 Ⓕ A-1 Ⓕ	P1004 P1004 P1008 P1008 P1010 P1010	A-1 Ⓕ A-5 Ⓒ A-2 Ⓕ A-5 Ⓒ A-2 Ⓕ B-6 Ⓒ
Integrated Circuits			
IC1001 IC1005	A-1 Ⓕ A-3 Ⓕ		
Test Points			
TP1003 TP1003 TP1005 (GND) TP1005 (GND)	A-1 Ⓕ A-6 Ⓒ A-3 Ⓕ A-4 Ⓒ		

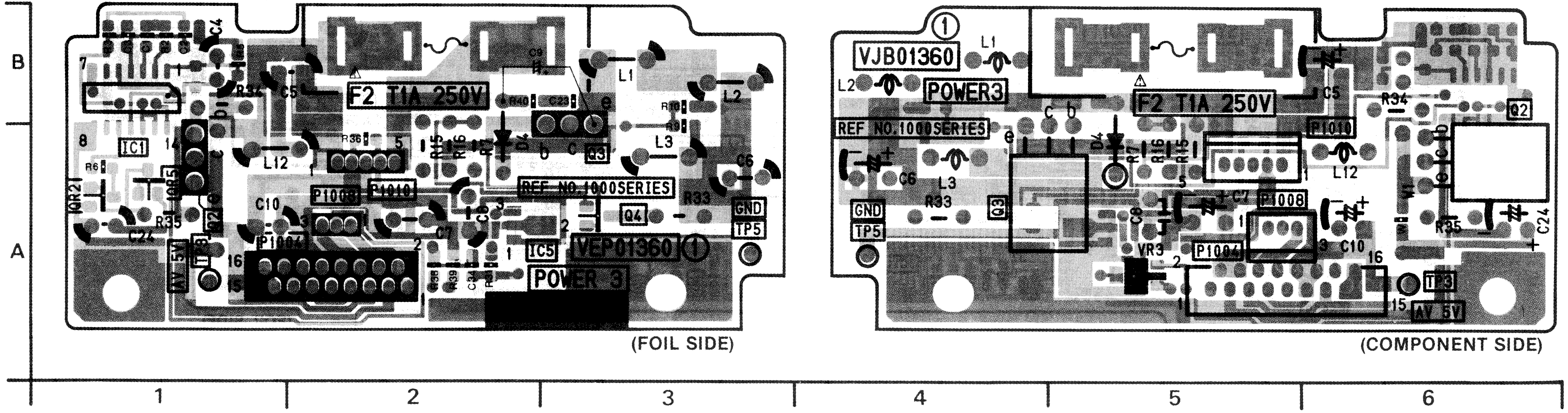
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION



POWER (3) C.B.A. (VEP01360A)

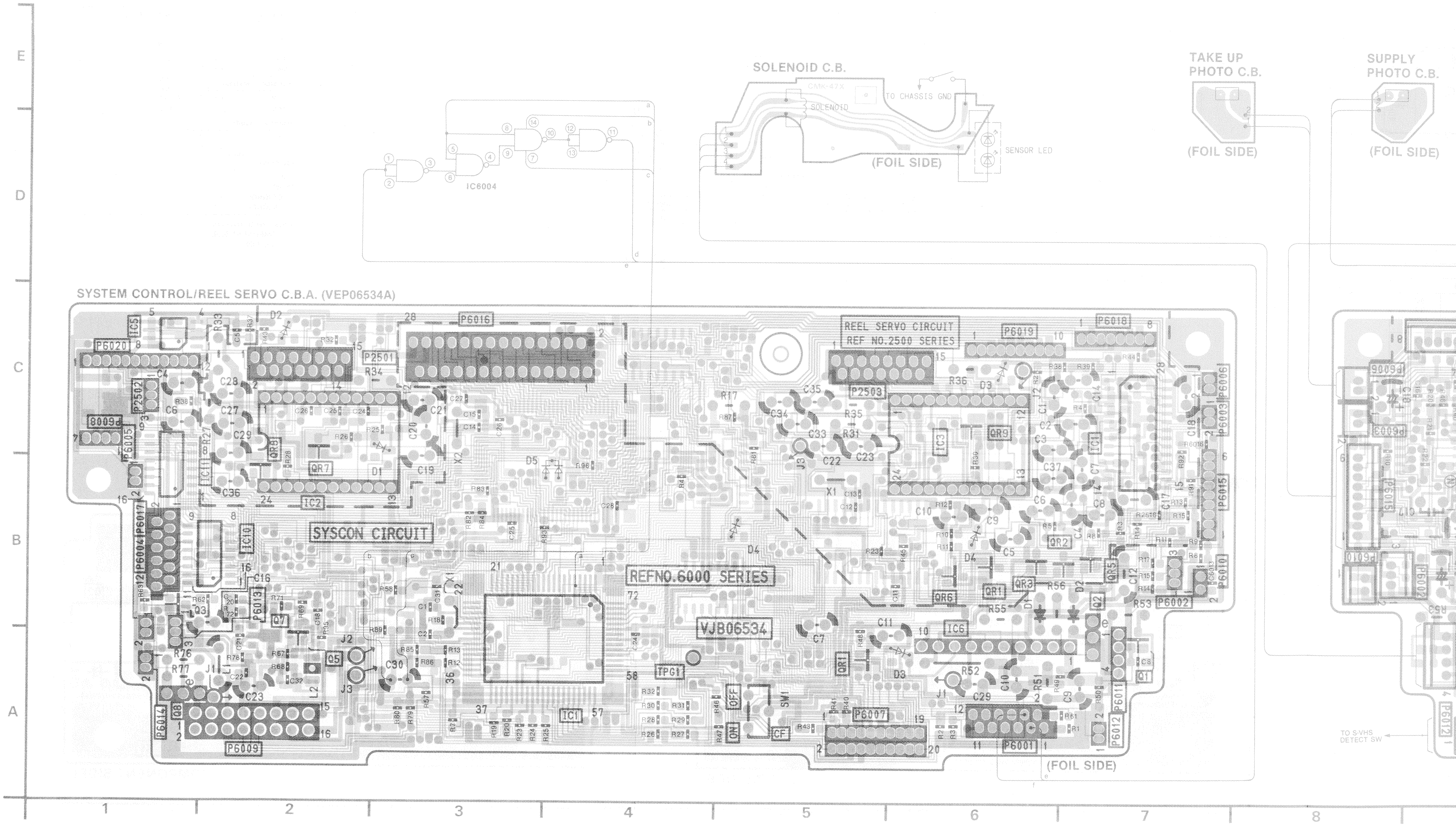
POWER (3) C.B.A. (VEP01360A)

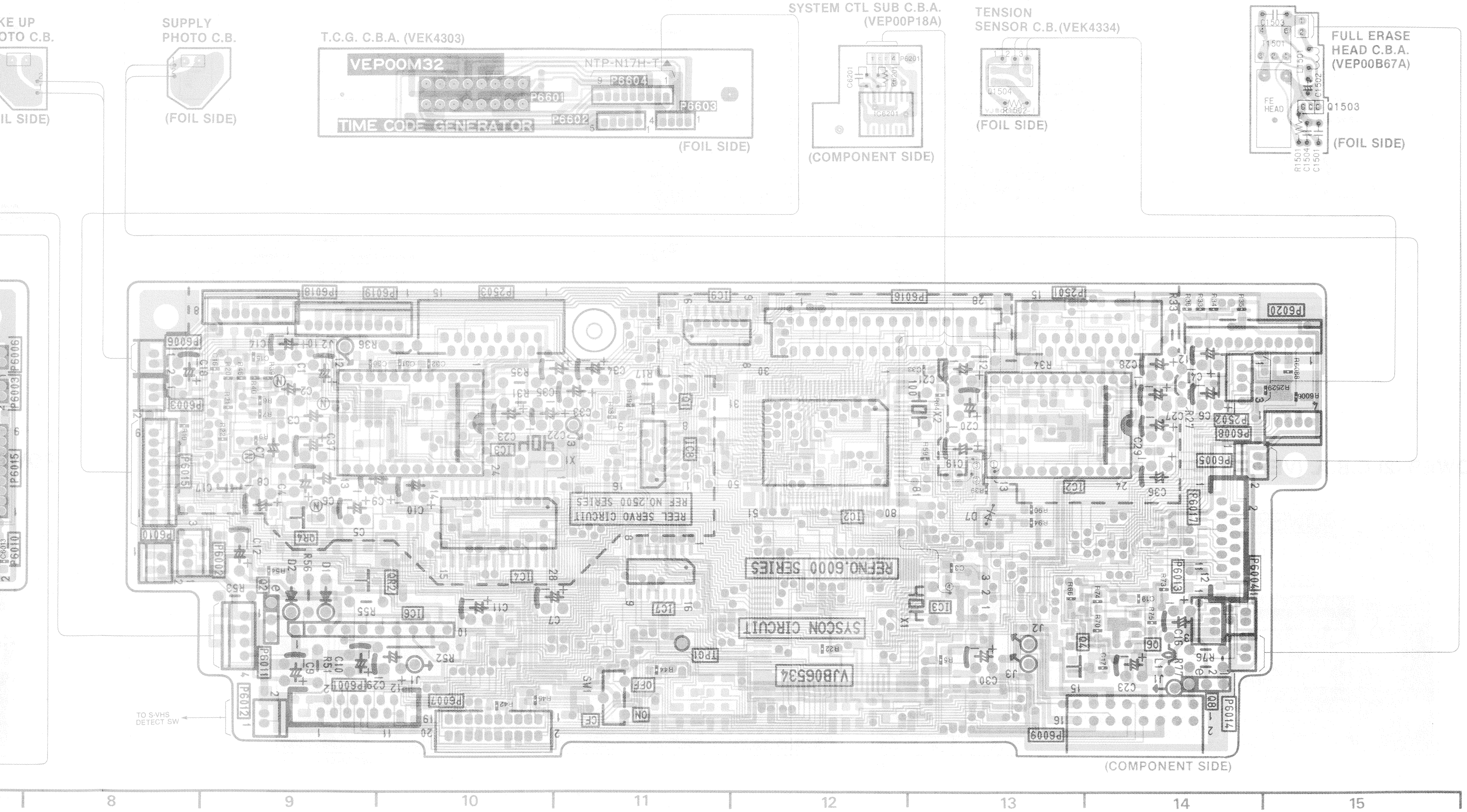

B
A
1
2
3
4
5
6
F2 T1A 250V
REF NO.1000SERIES
VEP01360
POWER 3
VJB01360
POWER3
IC1
IC5
Q3
Q4
Q2
QR1
QR5
P1004
P1008
P1010
GND
TP5
TP3
AV 5V
L1
L2
L3
L12
C4
C5
C6
C7
C9
C10
C23
C24
R33
R34
R35
R36
R40
VR3

(FOIL SIDE)

(COMPONENT SIDE)

SYSTEM CONTROL/REEL SERVO C.B.A. (VEP06534A)


SOLENOID C.B.
CMK-47X
SOLENOID
TO CHASSIS GND
SENSOR LED
(FOIL SIDE)
TAKE UP PHOTO C.B.
(FOIL SIDE)
SUPPLY PHOTO C.B.
(FOIL SIDE)
IC6004
SYSTEM CONTROL/REEL SERVO C.B.A. (VEP06534A)
SYSCON CIRCUIT
REEL SERVO CIRCUIT REF NO.2500 SERIES
REFNO.6000 SERIES
VJB06534
(FOIL SIDE)
TO S-VHS DETECT SW
E
D
C
B
A
1
2
3
4
5
6
7
8


KE UP
OTO C.B.
IL SIDE)
SUPPLY
PHOTO C.B.
(FOIL SIDE)
T.C.G. C.B.A. (VEK4303)
VEP00M32
NTP-N17H-T
P6601
P6604
P6603
P6602
TIME CODE GENERATOR
(FOIL SIDE)
SYSTEM CTL SUB C.B.A.
(VEP00P18A)
P6201
C6201
IC6201
(COMPONENT SIDE)
TENSION
SENSOR C.B. (VEK4334)
Q1504
R1502
(FOIL SIDE)
FULL ERASE
HEAD C.B.A.
(VEP00B67A)
C1503
T1501
L1501
C1502
FE HEAD
Q1503
R1501
C1504
C1501
(FOIL SIDE)
P6018
P6019
P2503
IC9
P6016
P2501
P6020
P6006
P6003
P6015
P6010
P6002
P6011
P6012
P6001
P6007
P6009
P6014
P6004
P6013
P6017
P6005
P6008
P2502
IC1
IC2
IC3
IC4
IC5
IC6
IC7
IC8
REEL SERVO CIRCUIT
REF NO.2500 SERIES
REF.NO.6000 SERIES
SYSCON CIRCUIT
VJB06534
TP61
SW
OFF
ON
CF
X1
J1
J2
J3
D7
Q2
Q4
Q6
Q8
TO S-VHS
DETECT SW
(COMPONENT SIDE)
8
9
10
11
12
13
14
15

SYSTEM CONTROL ICs DC VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.1	0	5.1	0	0	0	0	0	5.1	0	0	5.1	4.6	4.6	3.6	0	0	0	0.6	0
REC	5.1	0	0	0	0	0	0	0	0	5.1	0	5.1	4.7	0	3.8	2.7	5.1	0	0.6	
F.F.	5.1	0	5.1	0	0	0	0	5.1	0	0	0	5.1	4.7	4.7	3.7	0	5.1	5.1	0.6	
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	2.7	2.3	1.4	2.4	0	0	0	5.1	0	0	0	5.1	5.1	0	0	5.1
REC	0	0	0	0	5.0	2.2	1.4	2.4	0	0	5.1	5.1	0	0	0	5.1	5.1	0	0	5.1
F.F.	0	0	0		5.0	2.3	1.4	2.4	0	0	0	5.1	0	0	0	5.1	5.1	0	0	5.1
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	0	0	4.9	0.8	0	3.8	5.1	0	5.1	5.1	5.1	5.1	5.1	5.1	0	0	0	5.1	5.1	0
REC	0	0	4.9	4.5	0	3.8	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	0	5.0	0	5.1	5.1	0
F.F.	0	0	4.9	4.5	0	3.8	5.1	5.1	5.1	0	5.1	5.1	5.1	5.1	0	0	0	5.1	5.1	0
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72								
STOP	0	0	0.5	0	0	0	5.1	0	0	0	0	0								
REC	0	0	0	0	0	0	5.1	0	0	5.0	5.0	0								
F.F.	0	0	0.5	0	0	0	5.1	0	0	0	0	0								
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	5.1	2.6	2.2	0	0	0	0	0	4.9	0	0	0	0	0	5.0	0	0	0	0
REC	0	5.1	2.6	2.2	0	0	5.0	5.0	0	4.9	0	5.0	5.0	5.0	0	5.0	5.0	4.9	0	0
F.F.	0	5.1	2.6	2.2	0	0	0	0	0	0	0	0	0	0	0	5.0	0	0	0	0
REF. NO.	IC6002																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0	0	0	0	0	0	0	0	5.1	0	0	0	0	0	0	0.1	0.2	0	5.1	0
REC	0	0	0	0	0	0	0	0	5.1	0	1.2	2.5	0.1	3.5	3.5	3.7	0.2	3.6	3.6	0
F.F.	0	0	0	0	0	0	0	0	5.1	0	0	2.5	0.2	0	2.9	2.9	0.2	0	0	0
REF. NO.	IC6002																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	5.1	0	0	0	0	0	5.2	0	0	0	0	5.1	0	0	0	4.9	0	0	0	3.6
REC	5.1	0	0	3.1	3.1	2.5	5.2	0	0	0	0	5.1	0	0	0	4.9	4.8	4.8	4.2	3.5
F.F.	5.1	0	0	3.1	3.1	2.5	5.2	0	0	0	0	5.1	0	0	0	4.9	4.8	4.8	4.2	3.5
REF. NO.	IC6002																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
STOP	0.6	0	0	4.7	5.1	0	5.0	5.1	5.1	0	2.4	0	0	5.1	0	5.1	0	0	5.1	0
REC	0.6	4.6	3.9	4.7	5.1	0	5.0	5.1	5.1	0	2.4	0	0	5.1	0	0	0	0	5.1	0
F.F.	0.6	4.6	3.9	4.7	5.1	0	5.0	5.1	5.1	0	2.4	0	0	5.1	0	5.1	0	0	5.1	0
REF. NO.	IC6002																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
STOP	0	5.1	0	5.1	0	5.1	0	0	0	0	0	0	0	0.1	0.1	0	0	0	0	0
REC	0	5.1	0	5.1	0	5.1	0	0	0	0	5.1	0	5.1	5.1	5.1	0	0	5.0	0	0
F.F.	0	5.1	0	5.1	0	5.1	5.1	0	0	0	0	5.1	5.1	3.1	2.6	0	0	0	0	0
REF. NO.	IC6003										IC6005									
MODE	1	2	3								1	2	3	4	5	6	7	8		
STOP	5.1	0	5.0								5.1	3.5	4.7	0	4.7	0	5.1	5.1		
REC	5.1	0	5.0								5.1	3.5	4.7	0	4.7	3.5	5.1	5.1		
F.F.	5.1	0	5.0								5.1	3.5	4.7	0	4.7	3.5	5.1	5.1		
REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10										
STOP	0	0.5	0.5	0	0	5.1	13.7	0.3	13.7	0.5										
REC	0	0.6	0.6	0	0	0	13.4	0.2	13.4	0.6										
F.F.	0	0.6	0.6	0	0	0	13.6	0.3	13.6	0.6										
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	0	0	0	0	0	0	0	0	0.3	0	4.9	3.8	3.8	3.8	3.8				
REC	5.0	5.0	0	0	0	0	0	0	0	0.3	0	0	3.8	3.8	0.1	0.1				
F.F.	0	0	0	0	0	0	0	0	0	0.3	0	4.9	3.8	3.8	3.8	3.8				
REF. NO.	IC6008																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	0	0	0	0	0	4.9	0	0	0	0.4	0	0	4.6	5.1	0.4				
REC	0	0	3.1	0	3.7	5.0	0.5	0	0.1	0	0	2.3	0.2	2.8	5.1	0.2				
F.F.	0	0	3.1	0	3.0	0	4.9	0	0.1	0	0.2	2.0	0.2	2.8	5.1	0.2				
REF. NO.	IC6009																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	2.2	0	0	4.9	0	0	0	0	0	5.2	5.2	5.2	0	5.2	5.2	0				
REC	2.2	0	0	4.9	0	5.0	5.0	0	0	0	0	5.2	0	5.2	5.2	0				
F.F.	2.2	0	0	4.9	0	0	0	0	0	0	5.2	5.2	0	0	0	0				

REF. NO.	IC6010																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0	0	0	4.9	5.0	4.9	0	0	0	9.3	0	0	0	9.3	13.6	9.3				
REC	5.0	0	0	4.9	0	4.9	0	0	0	0	0	4.8	0	9.2	13.4	0				
F.F.	0	0	0	4.9	0	4.9	0	0	0	9.3	0	4.8	0	9.3	13.5	9.3				
REF. NO.	IC6011																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	5.0	5.0	0	0	0	0	0	0	0	0.2	12.1	0	9.0	7.7	0	0				
REC	5.0	0	5.0	5.0	0	0	5.0	0	0	0	12.0	0.6	0	0	0.3	0				
F.F.	5.0	0	0	0	0	0	0	0	0	0.3	12.1	0	9.1	7.7	0.3	0				

MEASUREMENT TAPE...S-VHS CASSETTE TAPE

SYSTEM CONTROL TRANSISTORs DC VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	11.7	2.0	11.6	13.5	0	13.5	9.3	0.2	9.3	0	5.1	0	0	0	0	0	0	0
REC	11.6	1.8	11.4	13.3	0	13.3	9.3	9.3	8.6	0	5.1	0	0	0	0	0	0	0
F.F.	11.6	1.8	11.5	13.4	0	13.4	9.3	0.3	9.3	0	0	0	0	0	0	0	0	0
REF. NO.	Q6007			Q6008														
MODE	E	C	B	E	C	B												
STOP	0	0	0	13.7	0	13.6												
REC	0	0	0	13.5	0	13.4												
F.F.	0	0	0	13.6	0	13.5												
REF. NO.	QR6001			QR6002														
MODE	E	C	B	E	C	B												
STOP	0	10.8	−0.1	0	13.6	0												
REC	0	10.4	−0.1	0	13.4	0												
F.F.	0	10.4	−0.1	0	13.4	0												

MEASUREMENT TAPE...S-VHS CASSETTE TAPE

SYSTEM CONTROL/REEL SERVO C.B.A. & T.C.G. C.B.A.

Transistors

Q1503	D-15 Ⓕ
Q1504	E-13 Ⓕ
Q2501	C-11 Ⓒ
Q6001	A-7 Ⓕ
Q6002	B-7 Ⓕ
Q6002	B-9 Ⓒ
Q6003	B-1 Ⓕ
Q6004	A-13 Ⓒ
Q6005	A-2 Ⓕ
Q6006	A-14 Ⓒ
Q6007	A-2 Ⓕ
Q6008	A-1 Ⓕ
Q6008	A-14 Ⓒ

Transistor & Resistors

QR2501	B-6 Ⓕ
QR2502	B-6 Ⓕ
QR2503	B-6 Ⓕ
QR2504	B-9 Ⓒ
QR2505	B-7 Ⓕ
QR2506	B-6 Ⓕ
QR2507	C-2 Ⓕ
QR2508	B-2 Ⓕ
QR2509	C-6 Ⓕ
QR6001	A-5 Ⓕ
QR6002	B-9 Ⓒ

Integrated Circuits

IC2501	C-7 Ⓕ
IC2502	B-2 Ⓕ
IC2502	C-13 Ⓒ
IC2503	C-6 Ⓕ
IC2503	C-10 Ⓒ
IC2504	B-10 Ⓒ
IC2508	B-11 Ⓒ
IC6001	A-4 Ⓕ
IC6002	B-12 Ⓒ
IC6003	B-13 Ⓒ
IC6004	D-3 Ⓕ
IC6005	C-1 Ⓕ
IC6006	A-6 Ⓕ
IC6006	A-9 Ⓒ
IC6007	B-11 Ⓒ
IC6009	C-11 Ⓒ
IC6010	B-2 Ⓕ
IC6011	B-1 Ⓕ
IC6201	D-12 Ⓕ

Test Points

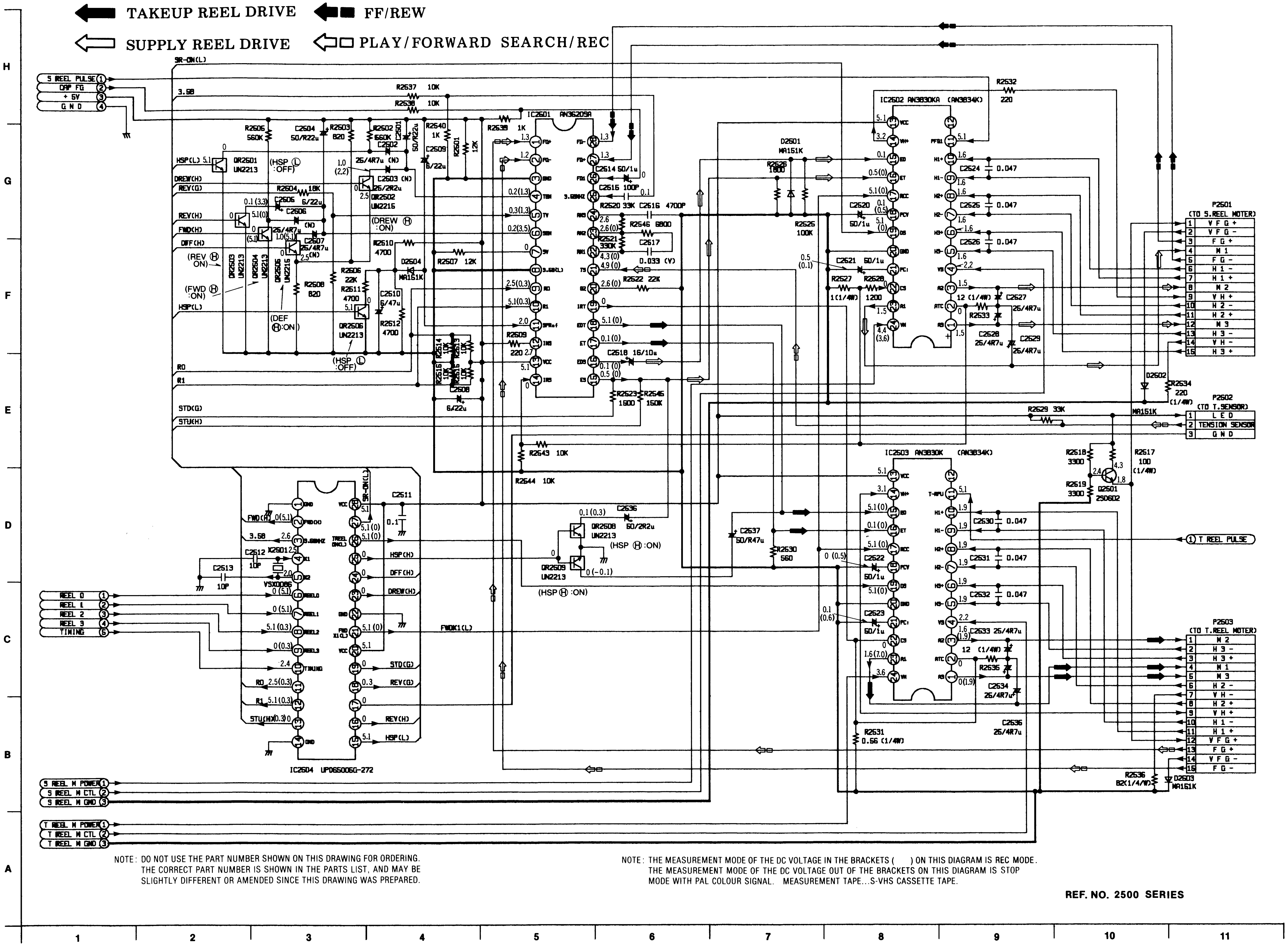
TPG6001	A-4 Ⓕ
TPG6001	A-11 Ⓒ

Connectors

P2501	C-2 Ⓕ
P2501	C-13 Ⓒ
P2502	C-1 Ⓕ
P2502	C-14 Ⓒ
P2503	C-5 Ⓕ
P2503	C-10 Ⓒ
P6001	A-6 Ⓕ
P6001	A-9 Ⓒ
P6002	B-7 Ⓕ
P6002	B-8 Ⓒ
P6003	C-7 Ⓕ
P6003	C-8 Ⓒ
P6004	B-1 Ⓕ
P6004	B-14 Ⓒ
P6005	B-1 Ⓕ
P6005	B-14 Ⓒ
P6006	C-7 Ⓕ
P6006	C-8 Ⓒ
P6007	A-5 Ⓕ
P6007	A-10 Ⓒ
P6008	C-1 Ⓕ
P6008	C-15 Ⓒ
P6009	A-2 Ⓕ
P6009	A-14 Ⓒ
P6010	B-7 Ⓕ
P6010	B-8 Ⓒ
P6011	A-7 Ⓕ
P6011	A-9 Ⓒ
P6012	A-7 Ⓕ
P6012	A-9 Ⓒ
P6013	A-1 Ⓕ
P6013	B-14 Ⓒ
P6014	A-1 Ⓕ
P6014	A-14 Ⓒ
P6015	B-7 Ⓕ
P6015	B-8 Ⓒ
P6016	C-3 Ⓕ
P6016	C-12 Ⓒ
P6017	B-1 Ⓕ
P6017	B-14 Ⓒ
P6018	C-7 Ⓕ
P6018	C-9 Ⓒ
P6019	C-6 Ⓕ
P6019	C-9 Ⓒ
P6020	C-1 Ⓕ
P6020	C-15 Ⓒ
P6201	E-12 Ⓕ
P6601	D-10 Ⓒ
P6602	D-11 Ⓒ
P6603	D-11 Ⓒ
P6604	E-11 Ⓒ

ADDRESS INFORMATION
Ⓒ...COMPONENT SIDE
Ⓕ...FOIL SIDE

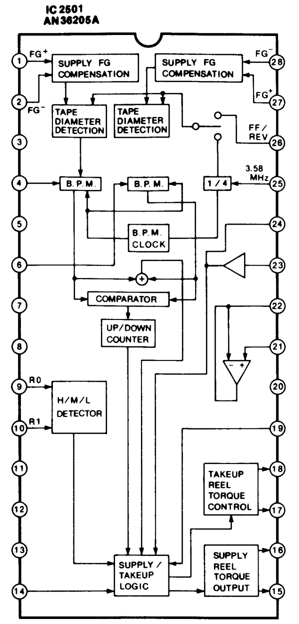
REEL SERVO SCHEMATIC DIAGRAM

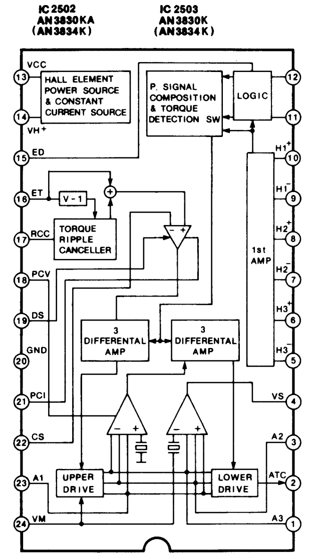

TAKEUP REEL DRIVE
FF/REW
SUPPLY REEL DRIVE
PLAY/FORWARD SEARCH/REC
S REEL PULSE
CAP FG
+5V
GND
SR-ON(L)
3.58
IC2501 AN36205A
IC2502 AN3830KA (AN3834K)
IC2503 AN3830K (AN3834K)
IC2504 UPD65006G-272
QR2501 UN2213
QR2502 UN2216
QR2503 UN2213
QR2504 UN2213
QR2505 UN2216
QR2506 UN2213
QR2508 UN2213
QR2509 UN2213
Q2501 2SD602
D2501 MA151K
D2502 MA151K
D2503 MA151K
D2504 MA151K
X2501 VSX0086
P2501 (TO S.REEL MOTER)
P2502 (TO T.SENSOR)
P2503 (TO T.REEL MOTER)
LED
TENSION SENSOR
T REEL PULSE
REEL 0
REEL 1
REEL 2
REEL 3
TIMING
S REEL M POWER
S REEL M CTL
S REEL M GND
T REEL M POWER
T REEL M CTL
T REEL M GND
HSP(L)
DREW(H)
REV(G)
REV(H)
FWD(H)
OFF(H)
STD(G)
STU(H)
R0
R1
FWDK1(L)
(HSP Ⓗ:ON)
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

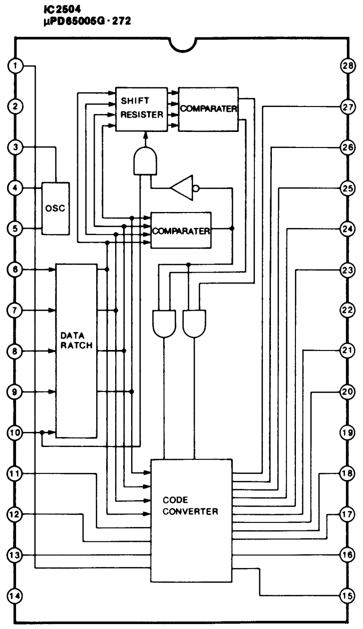
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

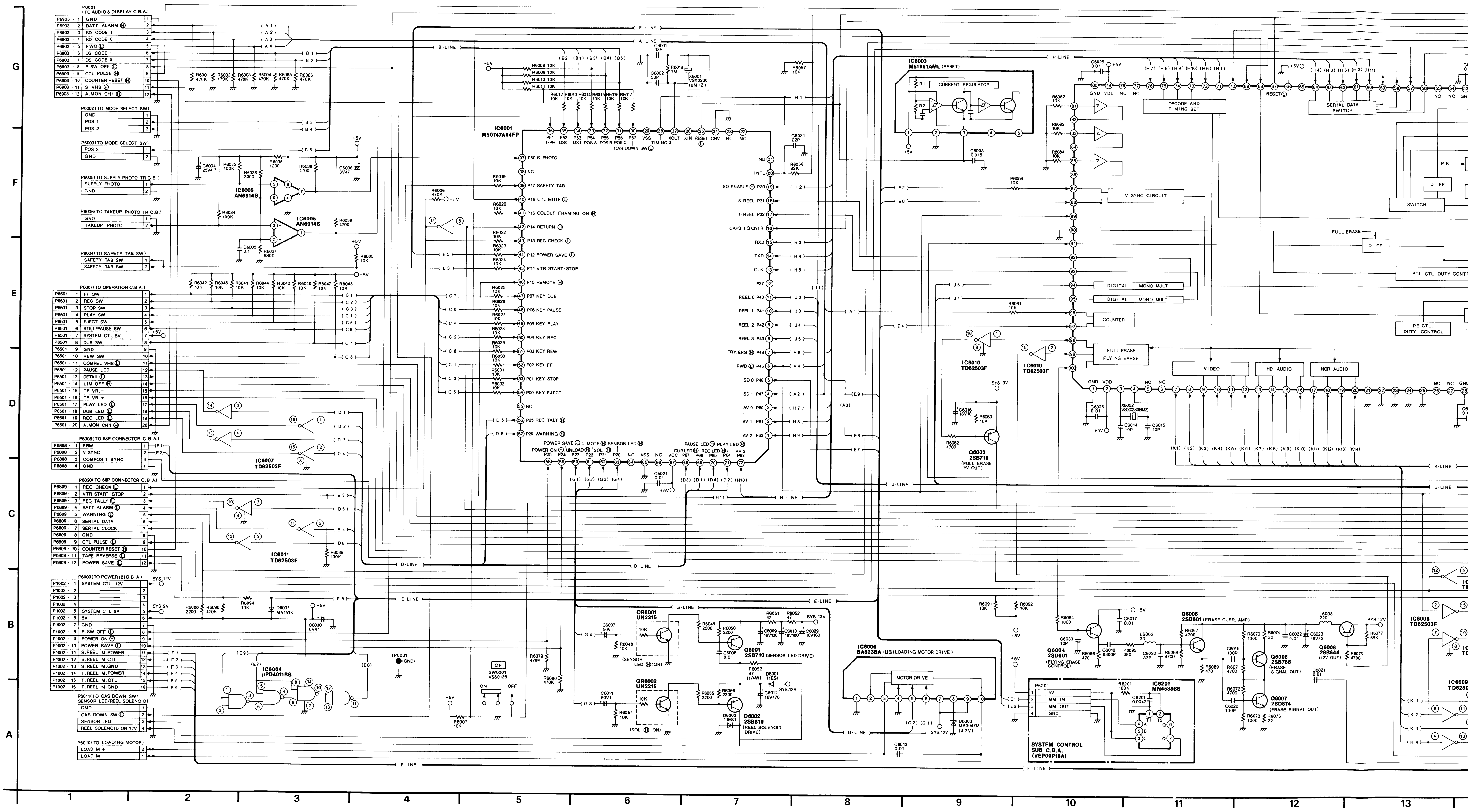
REF. NO. 2500 SERIES

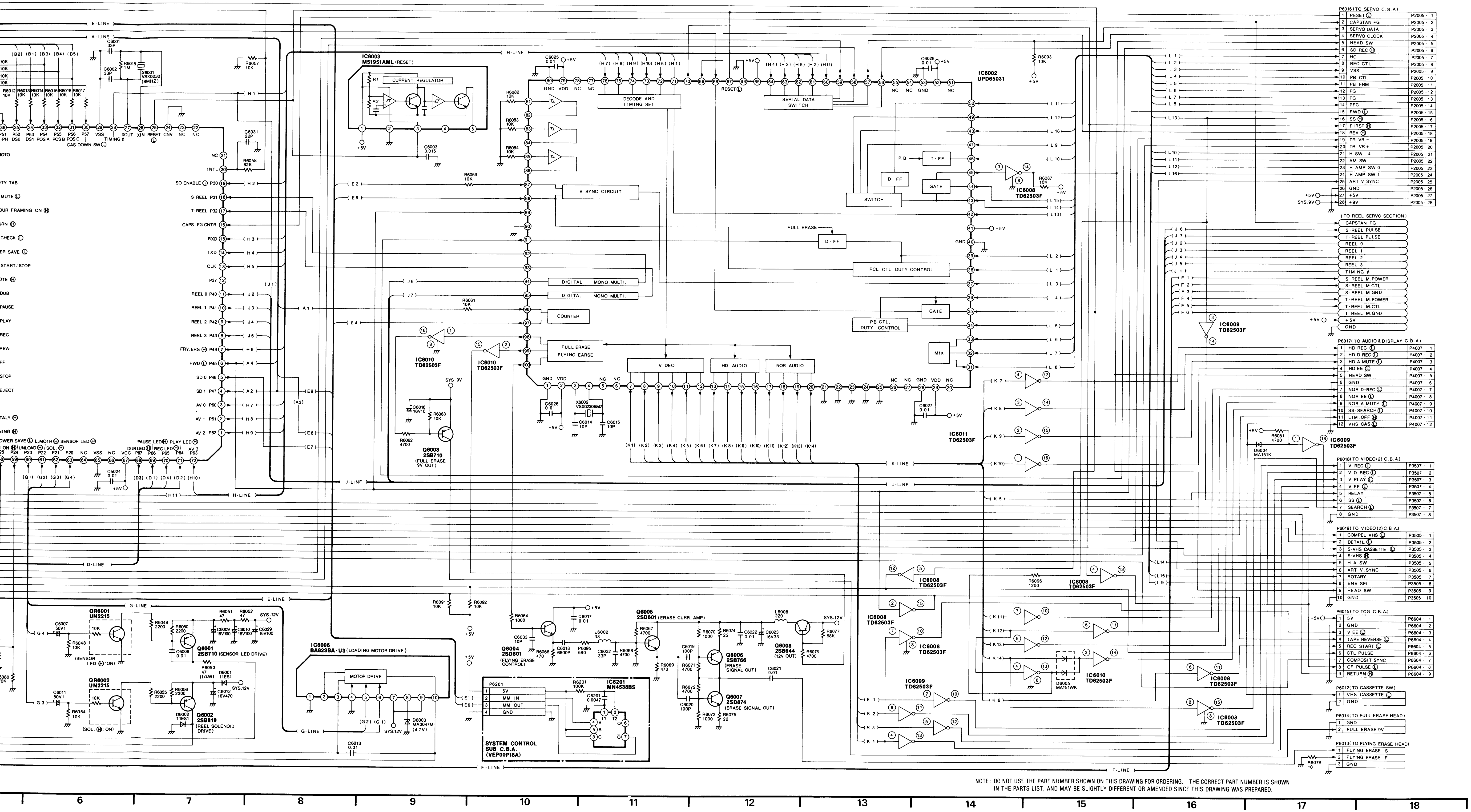

IC2501
AN36205A
SUPPLY FG COMPENSATION
SUPPLY FG COMPENSATION
TAPE DIAMETER DETECTION
TAPE DIAMETER DETECTION
FF/REV
3.58 MHz
B.P.M
B.P.M
1/4
B.P.M CLOCK
COMPARATOR
UP/DOWN COUNTER
H/M/L DETECTOR
TAKEUP REEL TORQUE CONTROL
SUPPLY/TAKEUP LOGIC
SUPPLY REEL TORQUE OUTPUT


IC2502
AN3830KA
(AN3834K)
IC2503
AN3830K
(AN3834K)
HALL ELEMENT POWER SOURCE & CONSTANT CURRENT SOURCE
P. SIGNAL COMPOSITION & TORQUE DETECTION SW
LOGIC
TORQUE RIPPLE CANCELLER
1st AMP
3 DIFFERENTIAL AMP
3 DIFFERENTIAL AMP
UPPER DRIVE
LOWER DRIVE


IC2504
µPD65006G-272
SHIFT RESISTER
COMPARATER
OSC
COMPARATER
DATA RATCH
CODE CONVERTER

SYSTEM CONTROL SCHEMATIC DIAGRAM

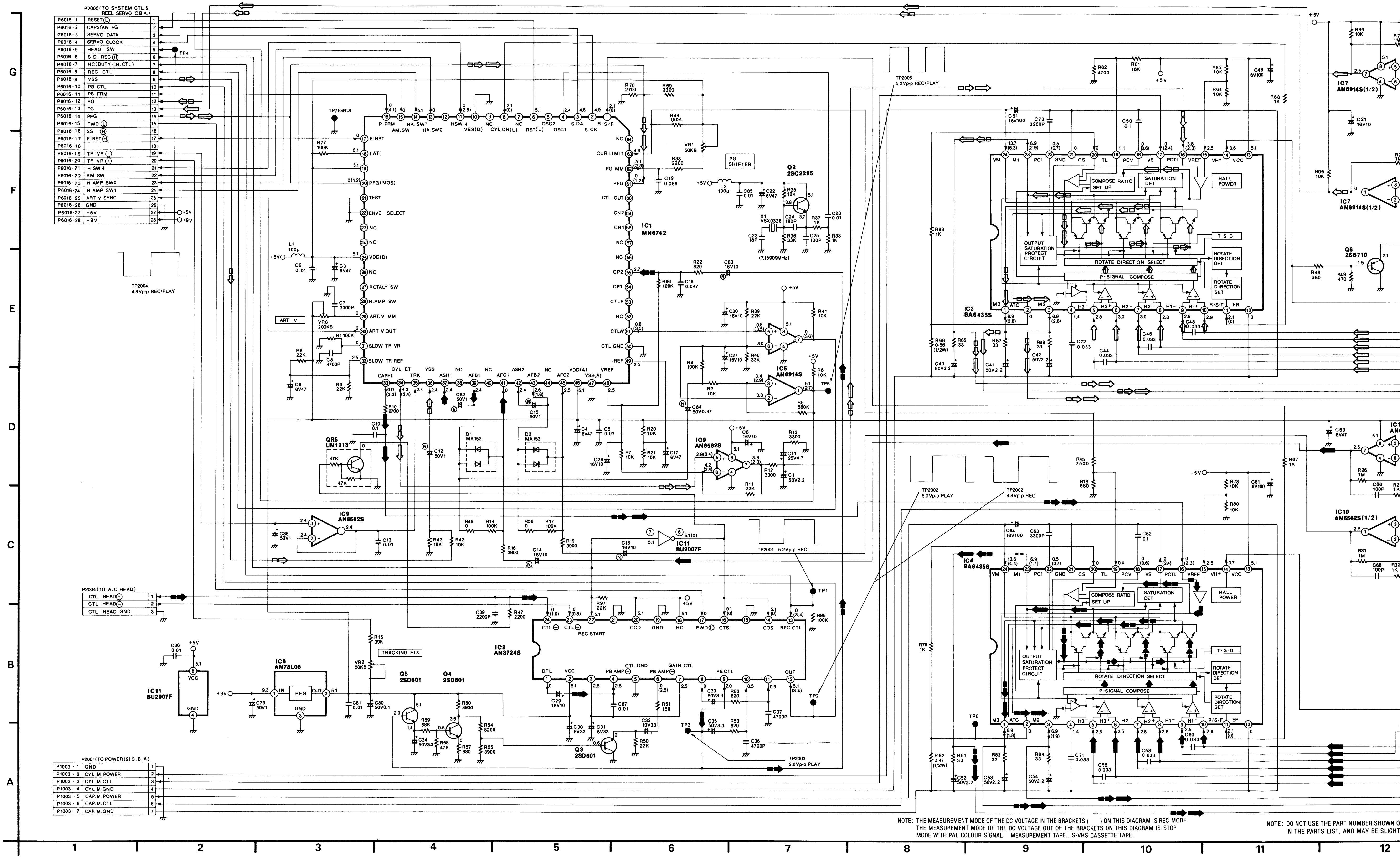

P6001 (TO AUDIO & DISPLAY C.B.A.)
GND
BATT ALARM Ⓗ
SD CODE 1
SD CODE 0
FWD Ⓛ
DS CODE 1
DS CODE 2
P.SW OFF Ⓛ
CTL PULSE Ⓗ
COUNTER RESET Ⓗ
S·VHS Ⓗ
A.MON CH1 Ⓗ
P6002 (TO MODE SELECT SW)
POS 1
POS 2
P6003 (TO MODE SELECT SW)
POS 3
P6005 (TO SUPPLY PHOTO TR C.B.)
SUPPLY PHOTO
P6006 (TO TAKEUP PHOTO TR C.B.)
TAKEUP PHOTO
P6004 (TO SAFETY TAB SW)
SAFETY TAB SW
P6007 (TO OPERATION C.B.A.)
FF SW
REC SW
STOP SW
PLAY SW
EJECT SW
STILL/PAUSE SW
SYSTEM CTL 5V
DUB SW
REW SW
COMPEL VHS Ⓛ
PAUSE LED
DETAIL Ⓛ
LIM.OFF Ⓗ
TR VR -
TR VR +
PLAY LED Ⓛ
DUB LED Ⓛ
REC LED Ⓛ
A.MON CH1 Ⓗ
P6008 (TO 68P CONNECTOR C.B.A.)
FRM
V.SYNC
COMPOSIT SYNC
P6020 (TO 68P CONNECTOR C.B.A.)
REC CHECK Ⓛ
VTR START/STOP
REC TALLY Ⓛ
BATT ALARM Ⓗ
WARNING Ⓛ
SERIAL DATA
SERIAL CLOCK
CTL PULSE Ⓗ
COUNTER RESET Ⓗ
TAPE REVERSE Ⓛ
POWER SAVE Ⓛ
P6009 (TO POWER (2) C.B.A.)
SYSTEM CTL 12V
SYSTEM CTL 9V
5V
P.SW OFF Ⓛ
POWER ON Ⓗ
POWER SAVE Ⓛ
S.REEL M.POWER
S.REEL M.CTL
S.REEL M.GND
T.REEL M.POWER
T.REEL M.CTL
T.REEL M.GND
P6011 (TO CAS DOWN SW/SENSOR LED/REEL SOLENOID)
CAS DOWN SW Ⓛ
SENSOR LED
REEL SOLENOID ON 12V
P6010 (TO LOADING MOTOR)
LOAD M +
LOAD M -
IC6005 AN6914S
IC6007 TD62503F
IC6011 TD62503F
IC6004 μPD4011BS
IC6001 M50747A84FP
P50 S.PHOTO
P17 SAFETY TAB
P16 CTL MUTE Ⓛ
P15 COLOUR FRAMING ON Ⓗ
P14 RETURN Ⓗ
P13 REC CHECK Ⓛ
P12 POWER SAVE Ⓛ
P11 VTR START/STOP
P10 REMOTE Ⓗ
P07 KEY DUB
P06 KEY PAUSE
P05 KEY PLAY
P04 KEY REC
P03 KEY REW
P02 KEY FF
P01 KEY STOP
P00 KEY EJECT
P25 REC TALY Ⓗ
P26 WARNING Ⓗ
SO ENABLE Ⓗ P30
S-REEL P31
T-REEL P32
CAPS FG CNTR
RXD
TXD
CLK
P37
REEL 0 P40
REEL 1 P41
REEL 2 P42
REEL 3 P43
FRY.ERS Ⓗ P49
FWD Ⓛ P45
SD 0 P46
SD 1 P47
AV 0 P60
AV 1 P61
AV 2 P62
IC6003 M51951AML (RESET)
CURRENT REGULATOR
X6001 VSX0230 (8MHZ)
DECODE AND TIMING SET
SERIAL DATA SWITCH
V SYNC CIRCUIT
DIGITAL MONO.MULTI.
COUNTER
FULL ERASE
FLYING EARSE
VIDEO
HD AUDIO
NOR AUDIO
IC6010 TD62503F
Q6003 2SB710 (FULL ERASE 9V OUT)
X6002 VSX0230BMZ
FULL ERASE
D·FF
SWITCH
RCL CTL DUTY CONT
P.B CTL DUTY CONTROL
QR6001 UN2215
QR6002 UN2215
Q6001 2SB710 (SENSOR LED DRIVE)
Q6002 2SB819 (REEL SOLENOID DRIVE)
D6001 11ES1
D6002 11ES1
D6003 MA3047M (4.7V)
D6007 MA151K
IC6006 BA623BA-U3 (LOADING MOTOR DRIVE)
MOTOR DRIVE
TP6001 (GND)
SW6001 VSS0126
Q6004 2SD601 (FLYING ERASE CONTROL)
Q6005 2SD601 (ERASE CURR. AMP)
Q6006 2SB766 (ERASE SIGNAL OUT)
Q6007 2SD874 (ERASE SIGNAL OUT)
Q6008 2SB644 (12V OUT)
IC6201 MN4538BS
P6201
5V
MM IN
MM OUT
GND
SYSTEM CONTROL SUB C.B.A. (VEP00P18A)
IC6008 TD62503F
E-LINE
A-LINE
B-LINE
H-LINE
G-LINE
D-LINE
F-LINE
J-LINE
K-LINE
1
2
3
4
5
6
7
8
9
10
11
12
13
G
F
E
D
C
B
A


E-LINE
A-LINE
H-LINE
J-LINE
K-LINE
D-LINE
G-LINE
F-LINE
IC6003
M51951AML (RESET)
CURRENT REGULATOR
IC6002
UPD65031
DECODE AND TIMING SET
SERIAL DATA SWITCH
V SYNC CIRCUIT
DIGITAL MONO MULTI
COUNTER
FULL ERASE FLYING EARSE
VIDEO
HD AUDIO
NOR AUDIO
RCL CTL DUTY CONTROL
PB CTL. DUTY CONTROL
GATE
MIX
SWITCH
D-FF
T-FF
FULL ERASE
IC6008 TD62503F
IC6009 TD62503F
IC6010 TD62503F
IC6011 TD62503F
Q6003 2SB710 (FULL ERASE 9V OUT)
Q6004 2SD601 (FLYING ERASE CONTROL)
Q6005 2SD601 (ERASE CURR. AMP)
Q6006 2SB766 (ERASE SIGNAL OUT)
Q6007 2SD874 (ERASE SIGNAL OUT)
Q6008 2SB644 (12V OUT)
QR6001 UN2215
QR6002 UN2215
Q6001 2SB710 (SENSOR LED DRIVE)
Q6002 2SB819 (REEL SOLENOID DRIVE)
IC6006 BA623BA-U3 (LOADING MOTOR DRIVE)
MOTOR DRIVE
IC6201 MN4538BS
SYSTEM CONTROL SUB C.B.A. (VEP00P18A)
P6201
5V
MM IN
MM OUT
GND
X6001 VSX0230 (8MHZ)
X6002 VSX0230BMZ
D6003 MA3047M (4.7V)
D6004 MA151K
D6005 MA151WK
(SENSOR LED Ⓗ: ON)
(SOL Ⓗ: ON)
P6016 (TO SERVO C.B.A.)
1 RESET Ⓛ P2005-1
2 CAPSTAN FG P2005-2
3 SERVO DATA P2005-3
4 SERVO CLOCK P2005-4
5 HEAD SW P2005-5
6 SD REC Ⓗ P2005-6
7 HC P2005-7
8 REC CTL P2005-8
9 VSS P2005-9
10 PB CTL P2005-10
11 PB FRM P2005-11
12 PG P2005-12
13 FG P2005-13
14 PFG P2005-14
15 FWD Ⓛ P2005-15
16 SS Ⓗ P2005-16
17 FIRST Ⓗ P2005-17
18 REV Ⓗ P2005-18
19 TR VR - P2005-19
20 TR VR + P2005-20
21 H SW 4 P2005-21
22 AM SW P2005-22
23 H AMP SW 0 P2005-23
24 H AMP SW 1 P2005-24
25 ART V SYNC P2005-25
26 GND P2005-26
27 +5V P2005-27
28 +9V P2005-28
(TO REEL SERVO SECTION)
CAPSTAN FG
S-REEL PULSE
T-REEL PULSE
REEL 0
REEL 1
REEL 2
REEL 3
TIMING #
S-REEL M.POWER
S-REEL M.CTL
S-REEL M.GND
T-REEL M.POWER
T-REEL M.CTL
T-REEL M.GND
+5V
GND
P6017 (TO AUDIO & DISPLAY C.B.A)
1 HD REC Ⓛ P4007-1
2 HD D REC Ⓛ P4007-2
3 HD A MUTE Ⓛ P4007-3
4 HD EE Ⓛ P4007-4
5 HEAD SW P4007-5
6 GND P4007-6
7 NOR D-REC Ⓛ P4007-7
8 NOR EE Ⓛ P4007-8
9 NOR A MUTE Ⓛ P4007-9
10 SS SEARCH Ⓛ P4007-10
11 LIM.OFF Ⓗ P4007-11
12 VHS CAS Ⓛ P4007-12
P6018 (TO VIDEO (2) C.B.A)
1 V REC Ⓛ P3507-1
2 V D REC Ⓛ P3507-2
3 V PLAY Ⓛ P3507-3
4 V EE Ⓛ P3507-4
5 RELAY P3507-5
6 SS Ⓛ P3507-6
7 SEARCH Ⓛ P3507-7
8 GND P3507-8
P6019 (TO VIDEO (2) C.B.A)
1 COMPEL VHS Ⓛ P3505-1
2 DETAIL Ⓛ P3505-2
3 S VHS CASSETTE Ⓛ P3505-3
4 S-VHS Ⓗ P3505-4
5 H A SW P3505-5
6 ART V SYNC P3505-6
7 ROTARY P3505-7
8 ENV SEL P3505-8
9 HEAD SW P3505-9
10 GND P3505-10
P6015 (TO TCG C.B.A)
1 5V P6604-1
2 GND P6604-2
3 V EE Ⓛ P6604-3
4 TAPE REVERSE Ⓛ P6604-4
5 REC START Ⓛ P6604-5
6 CTL PULSE P6604-6
7 COMPOSIT SYNC P6604-7
8 CF PULSE Ⓛ P6604-8
9 RETURN Ⓗ P6604-9
P6012 (TO CASSETTE SW)
1 VHS CASSETTE Ⓛ
2 GND
P6014 (TO FULL ERASE HEAD)
1 GND
2 FULL ERASE 9V
P6013 (TO FLYING ERASE HEAD)
1 FLYING ERASE S
2 FLYING ERASE F
3 GND
SO ENABLE Ⓗ P30
S-REEL P31
T-REEL P32
CAPS FG CNTR
RXD
TXD
CLK
P37
REEL 0 P40
REEL 1 P41
REEL 2 P42
REEL 3 P43
FRY.ERS Ⓗ P49
FWD Ⓛ P45
SD 0 P46
SD 1 P47
AV 0 P60
AV 1 P61
AV 2 P62
NC
INTL
PAUSE LEDⒽ PLAY LEDⒽ
DUB LEDⒽ REC LEDⒽ
SYS.12V
SYS.9V
+5V
6
7
8
9
10
11
12
13
14
15
16
17
18

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

SERVO SCHEMATIC DIAGRAM

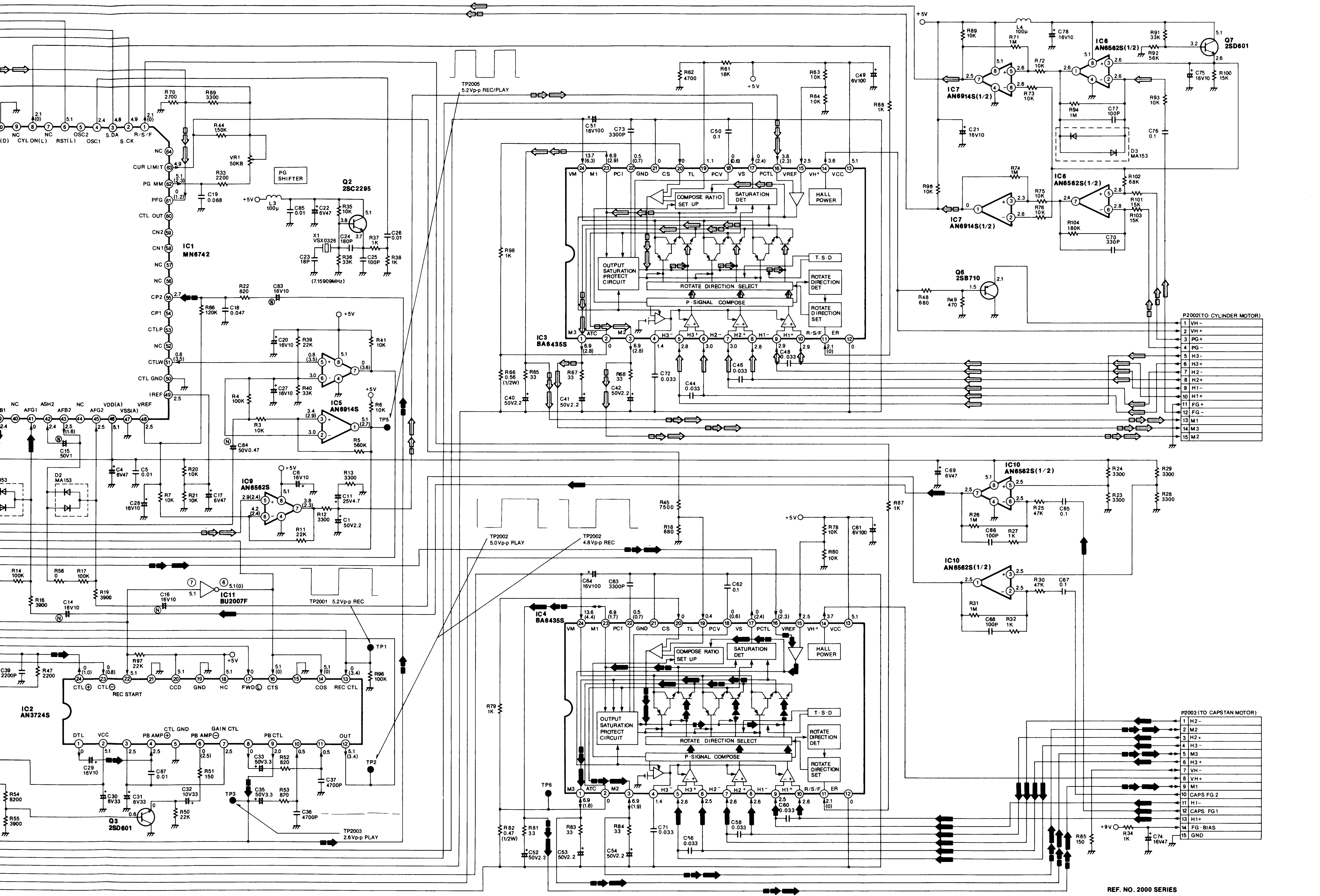
CAPSTAN SERVO SPEED LOOP. CYLINDER SERVO SPEED LOOP. CAPSTAN SERVO PHASE LOOP. CYLINDER SE


P2005 (TO SYSTEM CTL & REEL SERVO C.B.A.)
P6016-1 RESET (L) 1
P6016-2 CAPSTAN FG 2
P6016-3 SERVO DATA 3
P6016-4 SERVO CLOCK 4
P6016-5 HEAD SW 5
P6016-6 S.D. REC (H) 6
P6016-7 HC (DUTY CH.CTL) 7
P6016-8 REC CTL 8
P6016-9 VSS 9
P6016-10 PB CTL 10
P6016-11 PB FRM 11
P6016-12 PG 12
P6016-13 FG 13
P6016-14 PFG 14
P6016-15 FWD (L) 15
P6016-16 SS (H) 16
P6016-17 FIRST (H) 17
P6016-18 18
P6016-19 TR VR (-) 19
P6016-20 TR VR (+) 20
P6016-21 H SW 4 21
P6016-22 AM. SW 22
P6016-23 H AMP SW0 23
P6016-24 H AMP SW1 24
P6016-25 ART V SYNC 25
P6016-26 GND 26
P6016-27 +5V 27
P6016-28 +9V 28
TP4
TP2004 4.8Vp-p REC/PLAY
P2004 (TO A/C HEAD)
CTL HEAD (+) 1
CTL HEAD (-) 2
CTL HEAD GND 3
P2001 (TO POWER (2) C.B.A)
P1003-1 GND 1
P1003-2 CYL.M.POWER 2
P1003-3 CYL.M.CTL 3
P1003-4 CYL.M.GND 4
P1003-5 CAP.M.POWER 5
P1003-6 CAP.M.CTL 6
P1003-7 CAP.M.GND 7
IC1 MN6742
IC2 AN3724S
IC3 BA6435S
IC4 BA6435S
IC5 AN6914S
IC7 AN6914S(1/2)
IC8 AN78L05
IC9 AN6562S
IC10 AN6562S(1/2)
IC11 BU2007F
Q2 2SC2295
Q3 2SD601
Q4 2SD601
Q5 2SD601
Q6 2SB710
QR5 UN1213
D1 MA153
D2 MA153
X1 VSX0326 (7.15909MHz)
PG SHIFTER
ART V
TRACKING FIX
TP7 (GND)
TP1
TP2
TP3
TP5
TP6
TP2001 5.2Vp-p REC
TP2002 5.0Vp-p PLAY
TP2002 4.8Vp-p REC
TP2003 2.6Vp-p PLAY
TP2005 5.2Vp-p REC/PLAY
COMPOSE RATIO SET UP
SATURATION DET
HALL POWER
OUTPUT SATURATION PROTECT CIRCUIT
ROTATE DIRECTION SELECT
P-SIGNAL COMPOSE
ROTATE DIRECTION DET
ROTATE DIRECTION SET
T.S.D
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN O
IN THE PARTS LIST, AND MAY BE SLIGHT

ERVO SPEED LOOP. ⇦ CYLINDER SERVO SPEED LOOP. ◀■ CAPSTAN SERVO PHASE LOOP. ⇦□ CYLINDER SERVO PHASE LOOP.


IC1 MN6742
IC2 AN3724S
IC3 BA6435S
IC4 BA6435S
IC5 AN6914S
IC6 AN6562S(1/2)
IC7 AN6914S(1/2)
IC9 AN6562S
IC10 AN6562S(1/2)
IC11 BU2007F
Q2 2SC2295
Q3 2SD601
Q6 2SB710
Q7 2SD601
PG SHIFTER
X1 VSX0326 (7.15909MHz)
TP2005 5.2Vp-p REC/PLAY
TP2002 5.0Vp-p PLAY
TP2002 4.8Vp-p REC
TP2001 5.2Vp-p REC
TP2003 2.6Vp-p PLAY
P2002(TO CYLINDER MOTOR)
1 VH-
2 VH+
3 PG+
4 PG-
5 H3-
6 H3+
7 H2-
8 H2+
9 H1-
10 H1+
11 FG+
12 FG-
13 M1
14 M3
15 M2
P2003 (TO CAPSTAN MOTOR)
1 H2-
2 M2
3 H2+
4 H3-
5 M3
6 H3+
7 VH-
8 VH+
9 M1
10 CAPS FG 2
11 H1-
12 CAPS FG1
13 H1+
14 FG-BIAS
15 GND
COMPOSE RATIO SET UP
SATURATION DET
HALL POWER
OUTPUT SATURATION PROTECT CIRCUIT
T.S.D
ROTATE DIRECTION SELECT
ROTATE DIRECTION DET
P.SIGNAL COMPOSE
ROTATE DIRECTION SET
REC START
5
6
7
8
9
10
11
12
13
14

REF. NO. 2000 SERIES

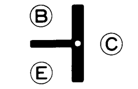
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

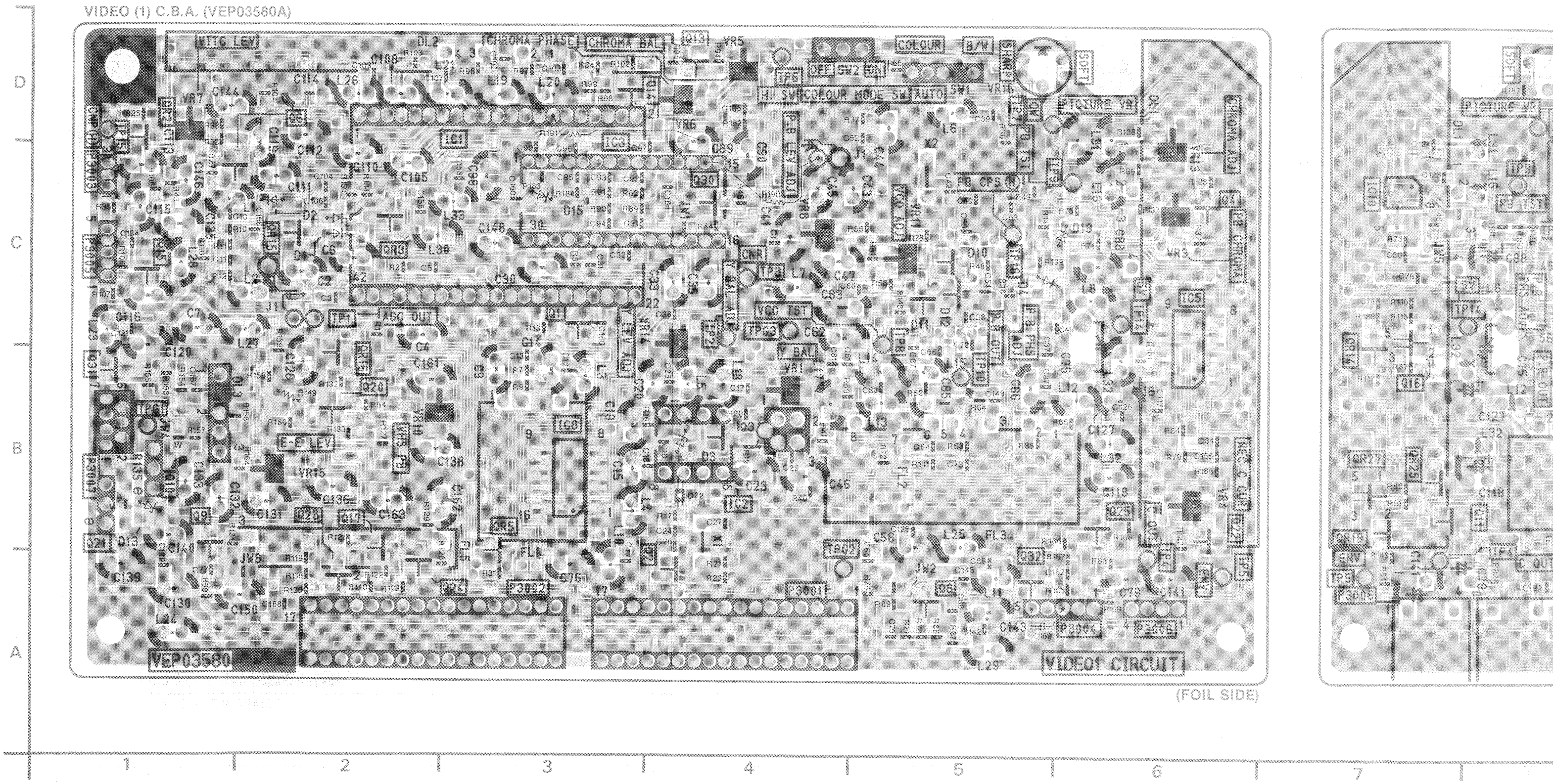
SERVO C.B.A.	
Transistors	
Q2002	D-2 Ⓕ
Q2003	D-12 ©
Q2004	D-3 Ⓕ
Q2005	D-3 Ⓕ
Q2006	C-4 Ⓕ
Q2007	C-5 Ⓕ
Transistor & Resistor	
QR2005	D-12 ©
Integrated Circuits	
IC2001	C-13 ©
IC2002	C-13 ©
IC2003	C-4 Ⓕ
IC2003	B-11 ©
IC2004	B-2 Ⓕ
IC2004	B-14 ©
IC2005	A-3 Ⓕ
IC2006	C-10 ©
IC2007	C-10 ©
IC2008	D-6 Ⓕ
IC2008	D-9 ©
IC2009	A-3 Ⓕ
IC2010	D-2 Ⓕ
IC2011	D-12 ©
Test Points	
TP2001	D-4 Ⓕ
TP2001	D-11 ©
TP2002	D-4 Ⓕ
TP2002	D-11 ©
TP2003	C-2 Ⓕ
TP2003	C-13 ©
TP2004	D-4 Ⓕ
TP2004	D-11 ©
TP2005	A-3 Ⓕ
TP2005	A-13 ©
TP2006	A-1 Ⓕ
TP2006	A-14 ©
TP2007	C-3 Ⓕ
TP2007	C-12 ©
TP2008	D-4 Ⓕ
TP2008	D-11 ©
Adjustments	
VR2001	C-13 ©
VR2002	D-9 ©
VR2006	A-2 Ⓕ
VR2006	A-14 ©
Connectors	
P2001	A-4 Ⓕ
P2001	A-11 ©
P2002	C-5 Ⓕ
P2002	C-11 ©
P2003	C-2 Ⓕ
P2003	C-14 ©
P2004	D-1 Ⓕ
P2004	D-14 ©
P2005	C-5 Ⓕ
P2005	D-10 ©

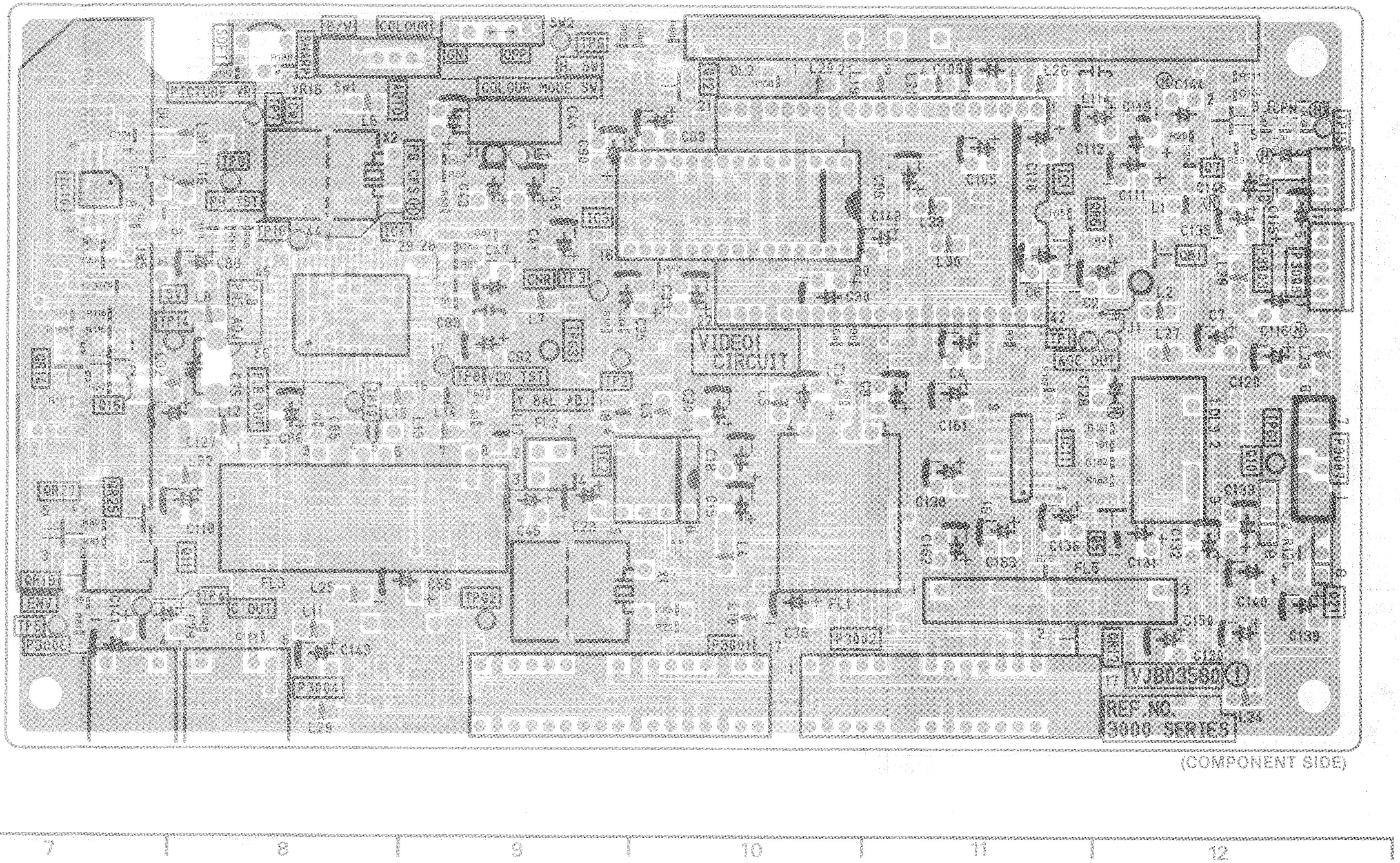
ADDRESS INFORMATION
©... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION



VIDEO (1) C.B.A. (VEP03580A)


VIDEO (1) C.B.A. (VEP03580A)
VITC LEV
CHROMA PHASE
CHROMA BAL
COLOUR
B/W
SHARP
SOFT
OFF SW2 ON
H. SW
COLOUR MODE SW
AUTO
SW1
PICTURE VR
CHROMA ADJ
P.B LEV ADJ
VCO ADJ
PB CPS
PB TST
PB CHROMA
CNR
AGC OUT
Y LEV ADJ
Y BAL ADJ
VCO TST
Y BAL
P.B OUT
P.B PHS ADJ
E-E LEV
VHS PB
REC C CUR
C OUT
ENV
VIDEO1 CIRCUIT
VEP03580
IC1
IC2
IC3
IC5
IC8
P3001
P3002
P3004
P3006
P3003
P3005
P3007
(FOIL SIDE)
D
C
B
A
1
2
3
4
5
6
7


SOFT
SHARP
B/W
COLOUR
ON
OFF
SW2
TP6
H. SW
COLOUR MODE SW
PICTURE VR
VR16
SW1
AUTO
TP7
CW
TP9
PB TST
TP16
IC10
IC4
PB CPS
IC3
CNR
TP3
5V
TP14
P.B PHS ADJ
QR14
Q16
QR27
QR25
P.B OUT
TP10
TP8
VCO TST
Y BAL ADJ
TP2
TPG3
VIDEO1 CIRCUIT
DL2
DL1
DL3
Q12
IC1
QR6
QR1
Q7
CPN
TP15
P3003
P3005
TP1
AGC OUT
IC11
TPG1
Q10
P3007
Q21
Q5
FL5
FL1
FL2
FL3
IC2
X1
X2
J1
Q11
QR19
ENV
TP5
P3006
TP4
C OUT
P3004
TPG2
P3001
P3002
QR17
VJB03580 ①
REF.NO. 3000 SERIES
7
8
9
10
11
12

(COMPONENT SIDE)

VIDEO (1) C.B.A.

Transistors

Q3001	C-3	Ⓕ
Q3002	A-4	Ⓕ
Q3003	B-4	Ⓕ
Q3004	C-6	Ⓕ
Q3005	B-11	Ⓒ
Q3006	D-2	Ⓕ
Q3007	C-12	Ⓒ
Q3008	A-5	Ⓕ
Q3009	B-1	Ⓕ
Q3010	B-1	Ⓕ
Q3010	B-12	Ⓒ
Q3011	B-8	Ⓒ
Q3012	D-10	Ⓒ
Q3013	D-4	Ⓕ
Q3014	D-4	Ⓕ
Q3015	C-1	Ⓕ
Q3016	B-7	Ⓒ
Q3017	B-2	Ⓕ
Q3020	B-2	Ⓕ
Q3021	B-1	Ⓕ
Q3021	A-12	Ⓒ
Q3022	B-6	Ⓕ
Q3023	B-2	Ⓕ
Q3024	A-3	Ⓕ
Q3025	B-6	Ⓕ
Q3030	C-4	Ⓕ
Q3031	B-1	Ⓕ
Q3032	A-5	Ⓕ

Transistor & Resistors

QR3001	C-12	Ⓒ
QR3002	D-1	Ⓕ
QR3003	C-2	Ⓕ
QR3005	B-3	Ⓕ
QR3006	C-11	Ⓒ
QR3014	B-7	Ⓒ
QR3015	C-2	Ⓕ
QR3016	B-2	Ⓕ
QR3017	A-12	Ⓒ
QR3019	B-7	Ⓒ
QR3025	B-7	Ⓒ
QR3027	B-7	Ⓒ

Integrated Circuits

IC3001	D-3	Ⓕ
IC3001	C-11	Ⓒ
IC3002	B-4	Ⓕ
IC3002	B-9	Ⓒ
IC3003	C-3	Ⓕ
IC3003	C-9	Ⓒ
IC3004	C-8	Ⓒ
IC3005	C-6	Ⓕ
IC3008	B-3	Ⓕ
IC3010	C-7	Ⓒ
IC3011	B-11	Ⓒ

Test Points

TP3001	C-2	Ⓕ
TP3001	C-11	Ⓒ
TP3002	C-4	Ⓕ
TP3002	C-9	Ⓒ
TP3003	C-4	Ⓕ
TP3003	C-9	Ⓒ
TP3004	A-6	Ⓕ
TP3004	B-8	Ⓒ
TP3005	A-6	Ⓕ
TP3005	A-7	Ⓒ
TP3006	D-4	Ⓕ
TP3006	D-9	Ⓒ
TP3007	D-5	Ⓕ
TP3007	D-8	Ⓒ
TP3008	C-5	Ⓕ
TP3008	C-9	Ⓒ
TP3009	C-5	Ⓕ
TP3009	C-8	Ⓒ
TP3010	B-5	Ⓕ
TP3010	B-8	Ⓒ
TP3014	C-6	Ⓕ
TP3014	C-8	Ⓒ
TP3015	D-1	Ⓕ
TP3015	D-12	Ⓒ
TP3016	C-5	Ⓕ
TP3016	C-8	Ⓒ
TPG3001	B-1	Ⓕ
TPG3001	B-12	Ⓒ
TPG3002	A-4	Ⓕ
TPG3002	A-9	Ⓒ
TPG3003	C-4	Ⓕ
TPG3003	C-9	Ⓒ

Adjustments

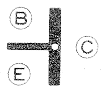
VR3001	B-4	Ⓕ
VR3003	C-6	Ⓕ
VR3004	B-6	Ⓕ
VR3005	D-4	Ⓕ
VR3006	D-4	Ⓕ
VR3007	D-1	Ⓕ
VR3008	C-4	Ⓕ
VR3010	B-2	Ⓕ
VR3011	C-5	Ⓕ
VR3013	C-6	Ⓕ
VR3014	C-3	Ⓕ
VR3015	B-2	Ⓕ
VR3016	D-5	Ⓕ
VR3016	D-8	Ⓒ

Connectors

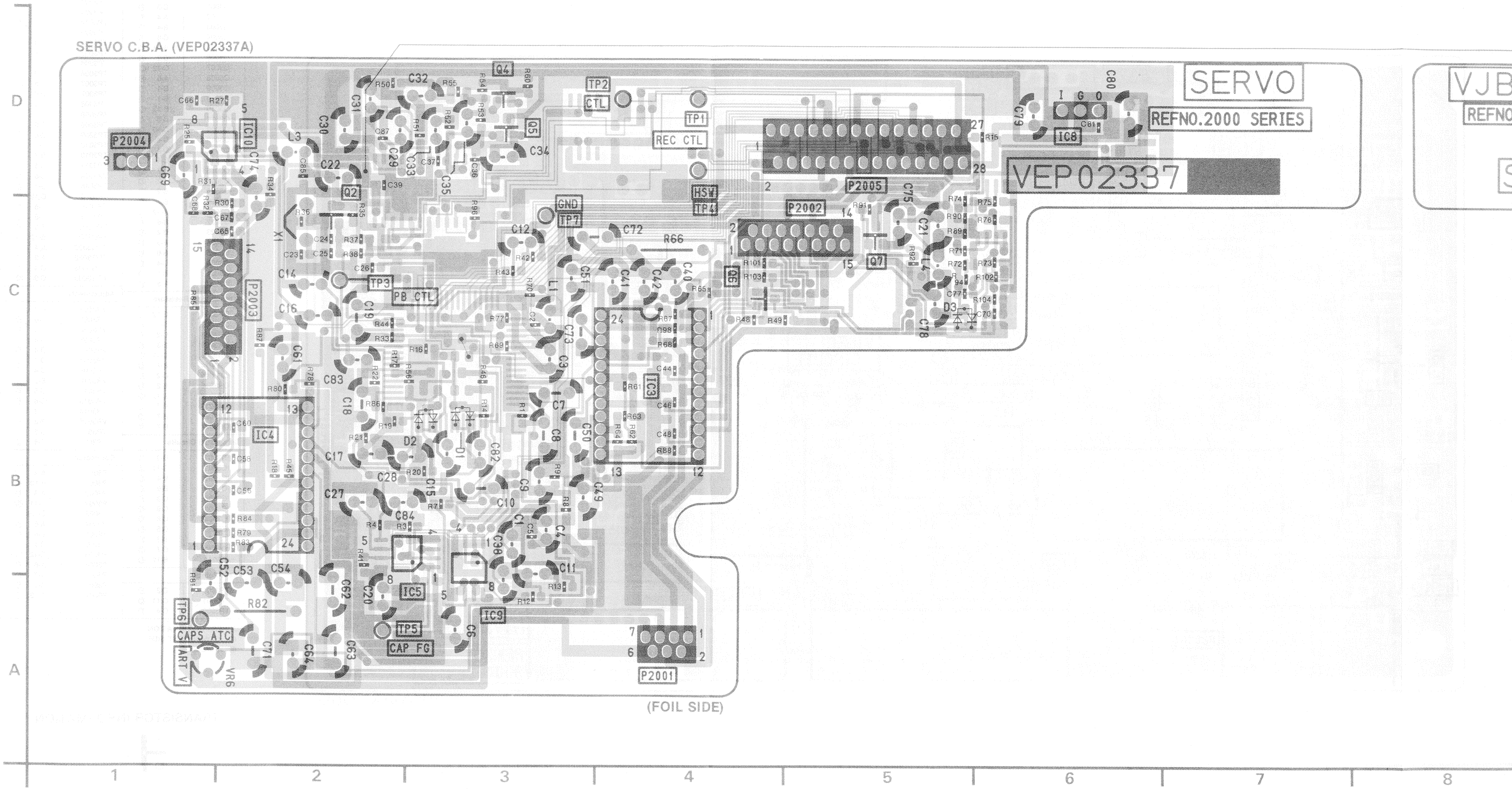
P3001	A-4	Ⓕ
P3001	A-10	Ⓒ
P3002	A-3	Ⓕ
P3002	A-11	Ⓒ
P3003	C-12	Ⓒ
P3004	A-6	Ⓕ
P3004	A-8	Ⓒ
P3005	C-1	Ⓕ
P3005	C-12	Ⓒ
P3006	A-6	Ⓕ
P3006	A-7	Ⓒ
P3007	B-1	Ⓕ
P3007	B-12	Ⓒ

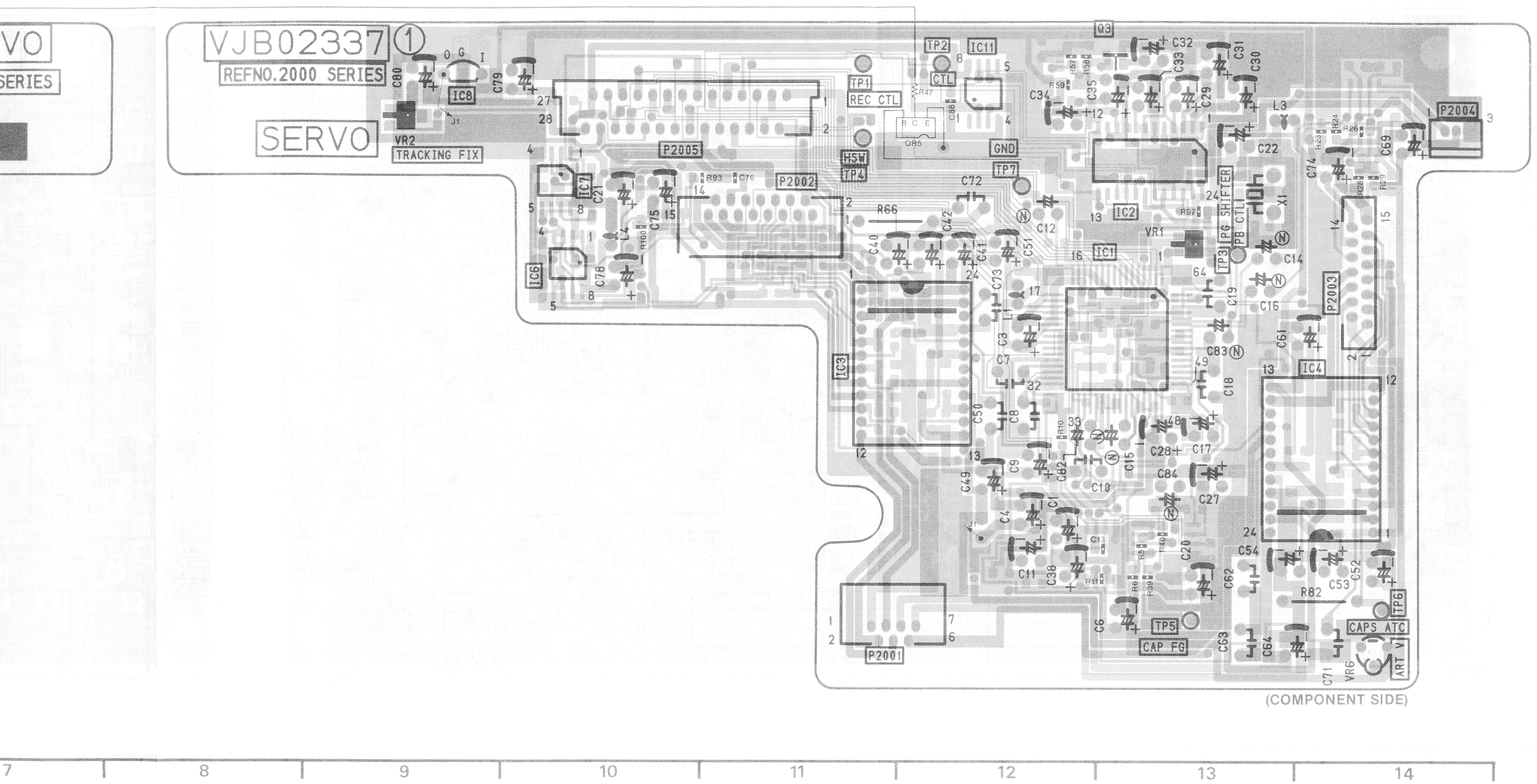
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION



SERVO C.B.A. (VEP02337A)


SERVO C.B.A. (VEP02337A)
SERVO
REFNO.2000 SERIES
VEP02337
P2001
P2002
P2003
P2004
P2005
IC3
IC4
IC5
IC8
IC9
IC10
Q2
Q4
Q5
Q6
Q7
TP1
TP2
TP3
TP4
TP5
TP6
TP7
CTL
REC CTL
HSW
GND
PB CTL
CAPS ATC
ART V
CAP FG
VR6
X1
(FOIL SIDE)
D
C
B
A
1
2
3
4
5
6
7
8


VO
SERIES
VJB02337 ①
REFNO.2000 SERIES
SERVO
VR2
TRACKING FIX
IC8
C80
C79
J1
P2005
P2002
P2001
P2003
P2004
IC7
IC6
IC3
IC1
IC2
IC4
IC11
Q3
QR5
TP1
REC CTL
TP2
CTL
TP3
PB CTL
PG SHIFTER
TP4
HSW
TP5
CAP FG
TP6
CAPS ATC
ART V
TP7
GND
VR1
VR6
X1
L3
L4
R66
R82
R47
R93
R97
R100
C72
C76
C75
C78
C21
C40
C41
C42
C51
C73
C12
C14
C16
C19
C18
C61
C83
C3
C7
C8
C50
C9
C49
C82
C10
C15
C84
C17
C28
C27
C4
C1
C11
C13
C38
C20
C6
C62
C63
C64
C54
C52
C53
C71
C74
C69
C22
C32
C33
C31
C30
C29
C35
C34
C86
R57
R58
R59
R23
R24
R26
R28
R29
R10
R5
R6
R11
R39
R40
7
8
9
10
11
12
13
14

(COMPONENT SIDE)

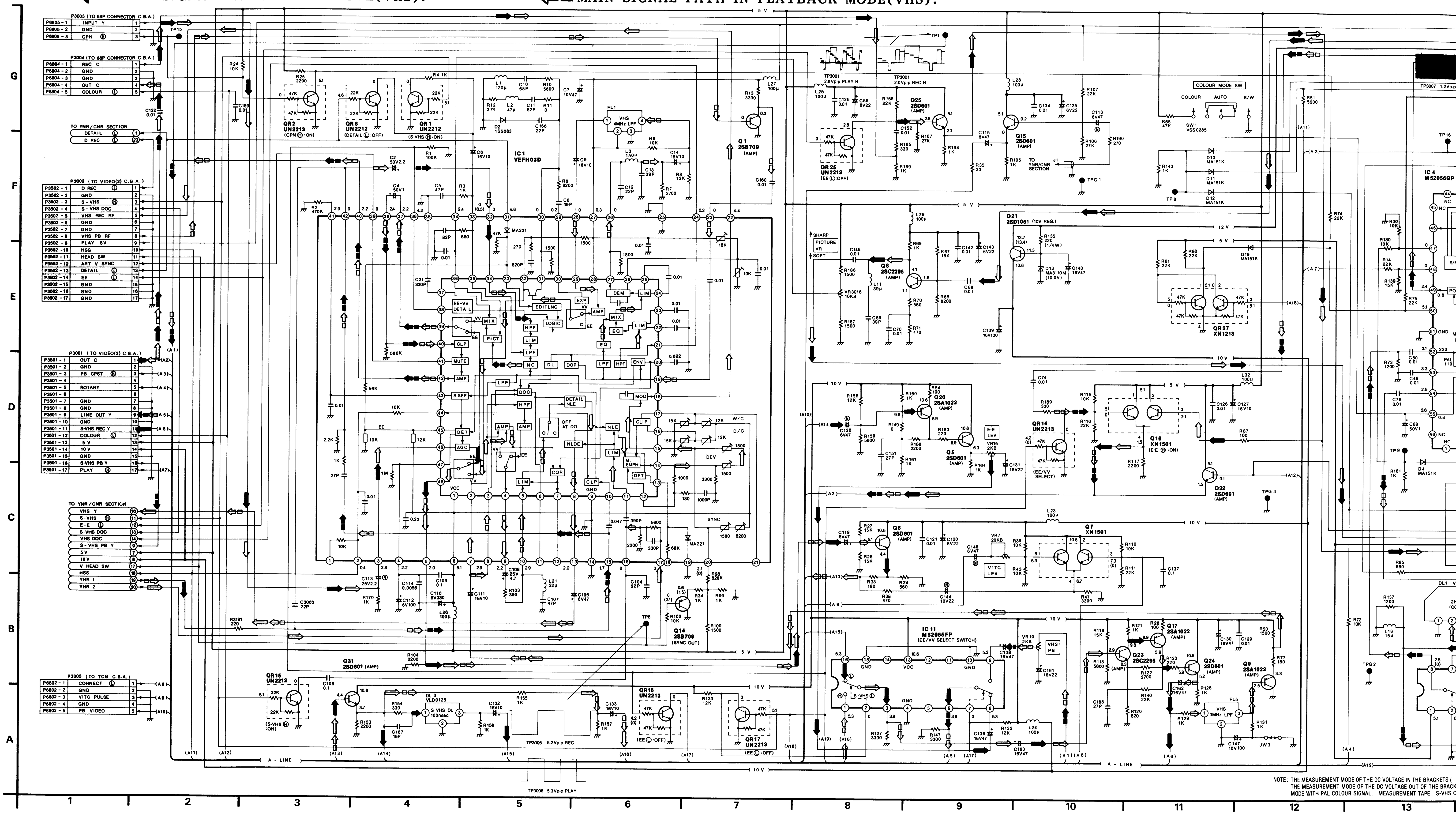
VIDEO (1) SCHEMATIC DIAGRAM [Y/C SECTION]

■ MAIN SIGNAL PATH IN REC MODE(S-VHS).

□ MAIN SIGNAL PATH IN REC MODE(VHS).

■■ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).

□□ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).


P3003 (TO 68P CONNECTOR C.B.A.)
P3004 (TO 68P CONNECTOR C.B.A.)
P3002 (TO VIDEO(2) C.B.A.)
P3001 (TO VIDEO(2) C.B.A.)
P3005 (TO TCG C.B.A.)
TO YNR/CNR SECTION
IC1 VEFH03D
IC4 M52056GP
IC11 M52055FP (EE/VV SELECT SWITCH)
QR2 UN2213 (CPN Ⓗ:ON)
QR6 UN2212 (DETAIL Ⓛ:OFF)
QR1 UN2212 (S-VHS Ⓗ:ON)
Q1 2SB709 (AMP)
QR25 UN2213 (EE Ⓛ:OFF)
Q25 2SD601 (AMP)
Q15 2SD601 (AMP)
Q21 2SD1051 (10V REG.)
Q8 2SC2295 (AMP)
QR27 XN1213
Q20 2SA1022 (AMP)
Q5 2SD601 (AMP)
QR14 UN2213 (EE/VV SELECT)
Q16 XN1501 (E-E Ⓗ:ON)
Q32 2SD601 (AMP)
Q6 2SD601 (AMP)
Q7 XN1501
Q14 2SB709 (SYNC OUT)
Q31 2SD601 (AMP)
QR15 UN2212 (S-VHS Ⓗ:ON)
QR16 UN2213 (EE Ⓛ:OFF)
QR17 UN2213 (EE Ⓛ:OFF)
Q17 2SA1022 (AMP)
Q23 2SC2295 (AMP)
Q24 2SD601 (AMP)
Q9 2SA1022 (AMP)
DL3 VLD0125 S-VHS DL 100nsec
FL1 VHS 4MHz LPF
FL5 VHS 3MHz LPF
COLOUR MODE SW
COLOUR AUTO B/W
TP3001 2.6Vp-p PLAY H
TP3001 2.0Vp-p REC H
TP3006 5.2Vp-p REC
TP3006 5.3Vp-p PLAY
TP3007 1.2Vp-p
A-LINE
5V
10V
12V
1
2
3
4
5
6
7
8
9
10
11
12
13
A
B
C
D
E
F
G

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACK
MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS C

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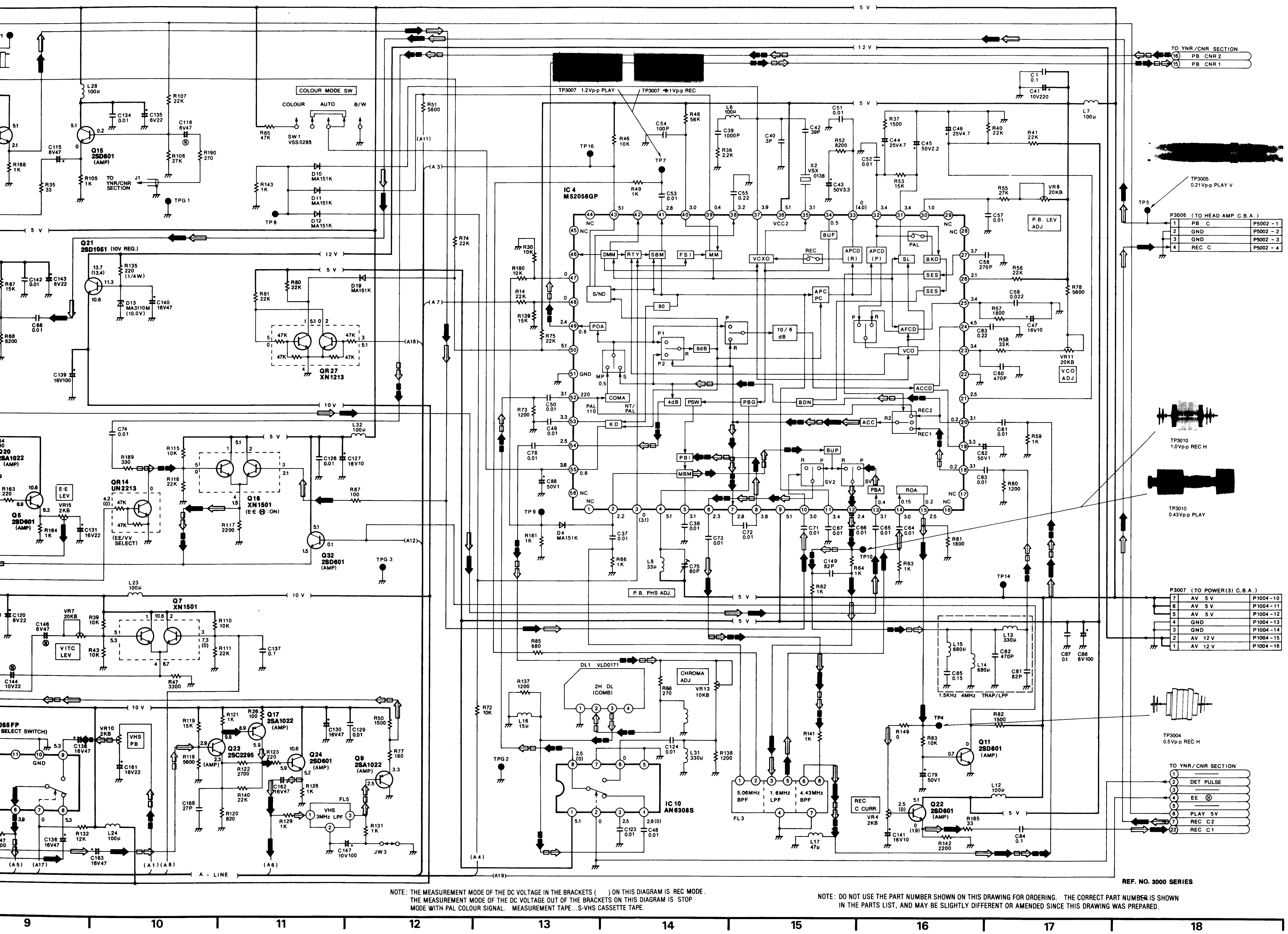


IC 4 M52056GP
IC 10 AN6308S
Q15 2SD601 (AMP)
Q21 2SD1051 (10V REG.)
QR27 XN1213
Q20 2SA1022 (AMP)
QR14 UN2213
Q16 XN1501 (E-E ⓔ ON)
Q5 2SD601 (AMP)
Q32 2SD601 (AMP)
Q7 XN1501
Q17 2SA1022 (AMP)
Q23 2SC2295 (AMP)
Q24 2SD601 (AMP)
Q9 2SA1022 (AMP)
Q11 2SD601 (AMP)
Q22 2SD601 (AMP)
COLOUR MODE SW
COLOUR AUTO B/W
SW1 VSS0285
TO YNR/CNR SECTION
TP3007 1.2Vp-p PLAY
TP3007 1Vp-p REC
TP3005 0.21Vp-p PLAY V
TP3010 1.0Vp-p REC H
TP3010 0.43Vp-p PLAY
TP3004 0.5Vp-p REC H
P3006 (TO HEAD AMP C.B.A.)
PB C P5002-1
GND P5002-2
GND P5002-3
REC C P5002-4
P3007 (TO POWER(3) C.B.A.)
AV 5V P1004-10
AV 5V P1004-11
AV 5V P1004-12
GND P1004-13
GND P1004-14
AV 12V P1004-15
AV 12V P1004-16
PB CNR 2
PB CNR 1
DET PULSE
EE ⓔ
PLAY 5V
REC C2
REC C1
P.B. LEV ADJ
VCO ADJ
CHROMA ADJ
P.B. PHS ADJ.
VITC LEV
E-E LEV
VHS PB
REC C CURR
DL1 VLD0171
2H DL (COMB)
FL3
5.06MHz BPF
1.6MHz LPF
4.43MHz BPF
FL5 VHS 3MHz LPF
1.5KHz 4MHz TRAP/LPF
A - LINE
9
10
11
12
13
14
15
16
17
18

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

REF. NO. 3000 SERIES

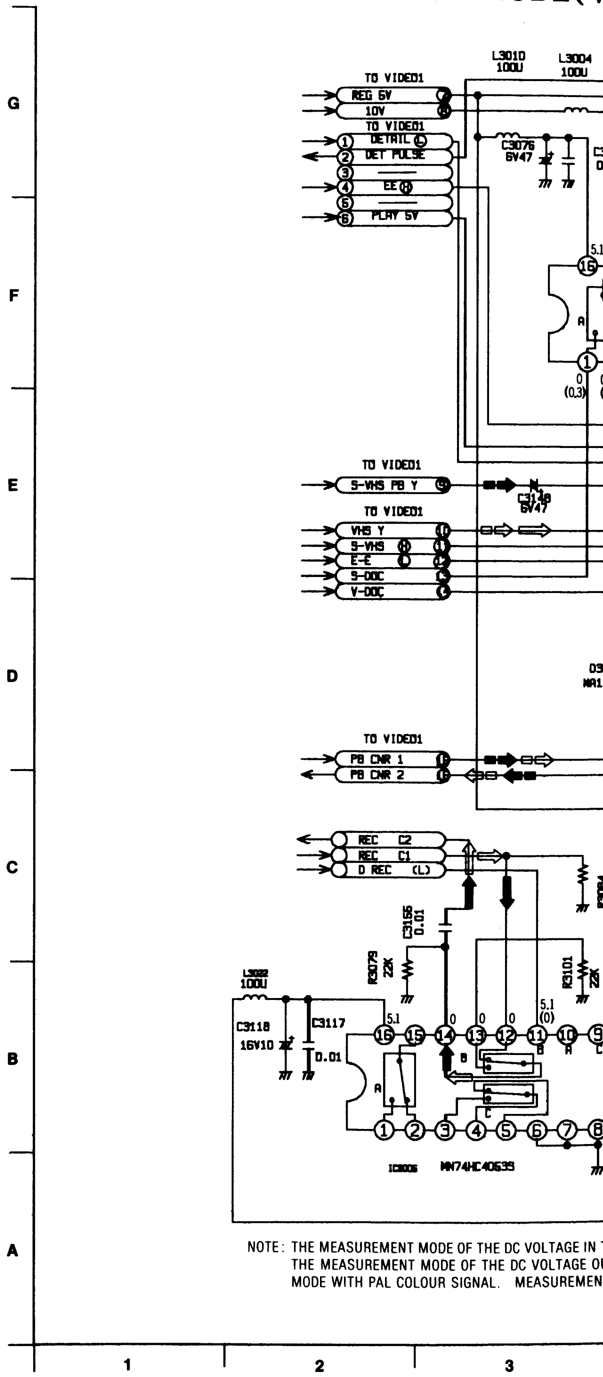
VIDEO (1) SCHEMATIC DIAG

⬅ MAIN SIGNAL PATH
IN REC MODE(S-VHS).

⇦ MAIN SIGNAL PATH
IN REC MODE(VHS).

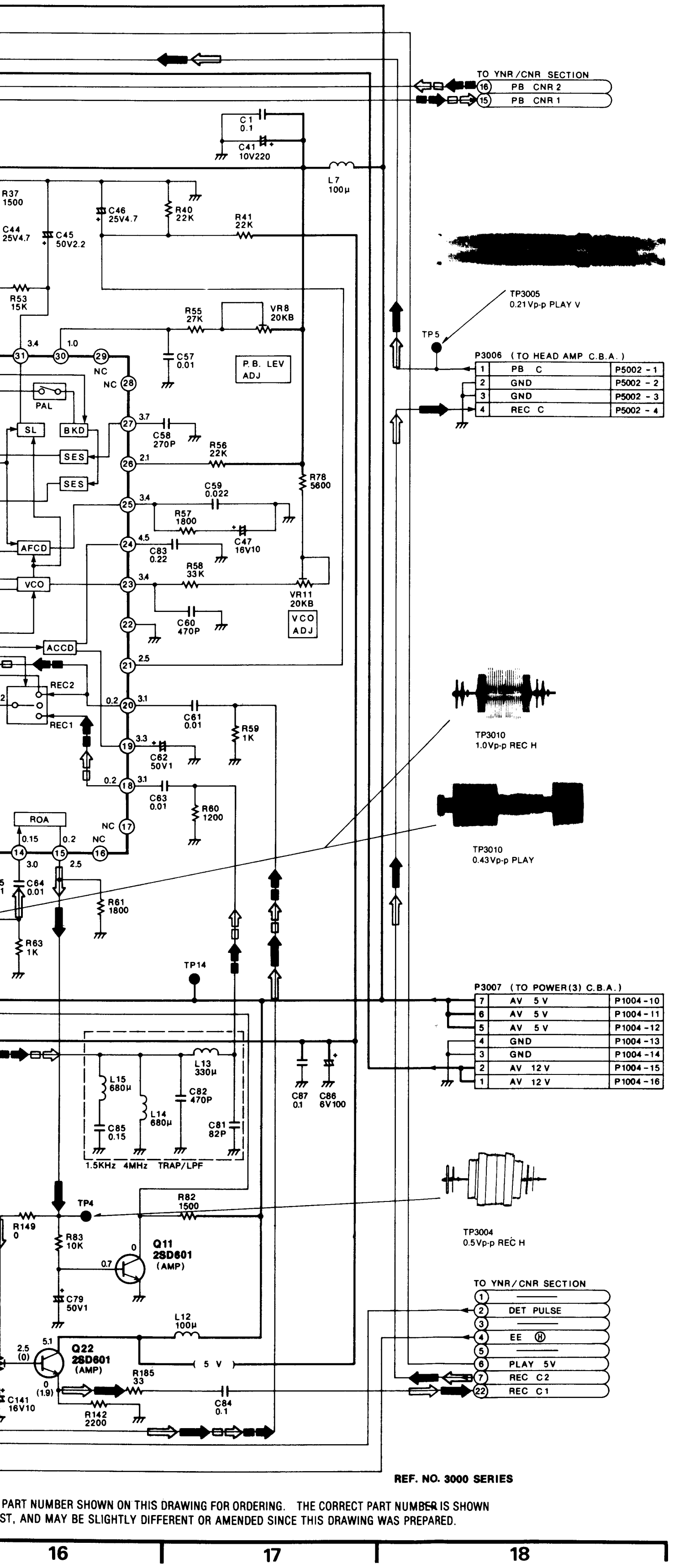
⬅ MAIN SIGNAL PATH
IN PLAYBACK MODE(S

⇦ MAIN SIGNAL PATH
IN PLAYBACK MODE(V



TO VIDEO1
REG 5V
10V
DETAIL ⓒ
DET PULSE
EE ⓔ
PLAY 5V
S-VHS PB Y
VHS Y
S-VHS
E-E
S-DOC
V-DOC
PB CNR 1
PB CNR 2
REC C2
REC C1
D REC (L)
IC3006 MN74HC4053S
G
F
E
D
C
B
A
1
2
3

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN
THE MEASUREMENT MODE OF THE DC VOLTAGE O
MODE WITH PAL COLOUR SIGNAL. MEASUREMEN


TO YNR/CNR SECTION
PB CNR 2
PB CNR 1
TP3005
0.21Vp-p PLAY V
P3006 (TO HEAD AMP C.B.A.)
PB C
GND
GND
REC C
P.B. LEV ADJ
VCO ADJ
TP3010
1.0Vp-p REC H
TP3010
0.43Vp-p PLAY
P3007 (TO POWER(3) C.B.A.)
AV 5 V
AV 12 V
GND
1.5KHz 4MHz TRAP/LPF
Q11
2SD601
(AMP)
Q22
2SD601
(AMP)
TP3004
0.5Vp-p REC H
TO YNR/CNR SECTION
DET PULSE
EE
PLAY 5V
REC C2
REC C1
16
17
18

REF. NO. 3000 SERIES

PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN
ST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

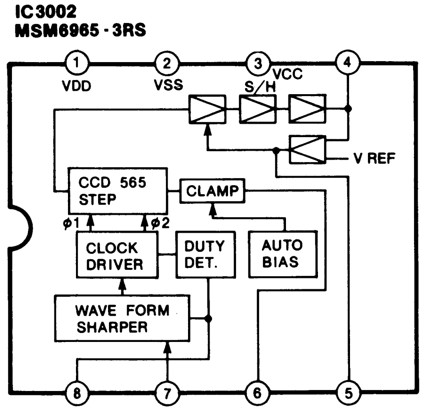
VIDEO (1) SCHEMATIC DIAGRAM [YNR/CNR SECTION]

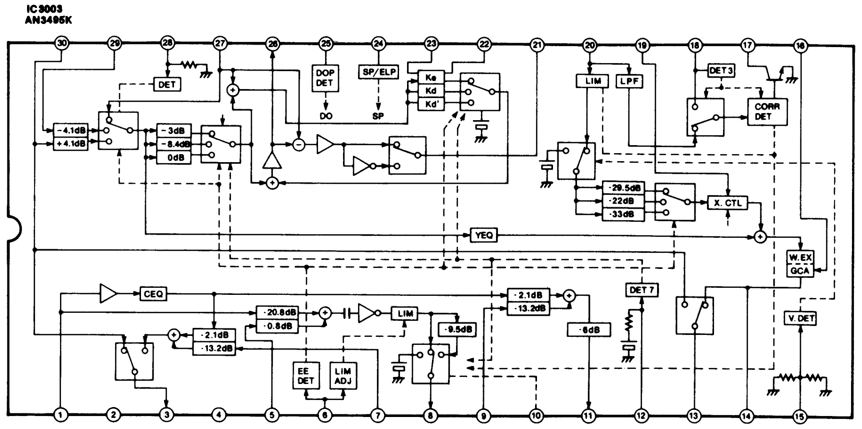
◀■ MAIN SIGNAL PATH IN REC MODE(S-VHS).

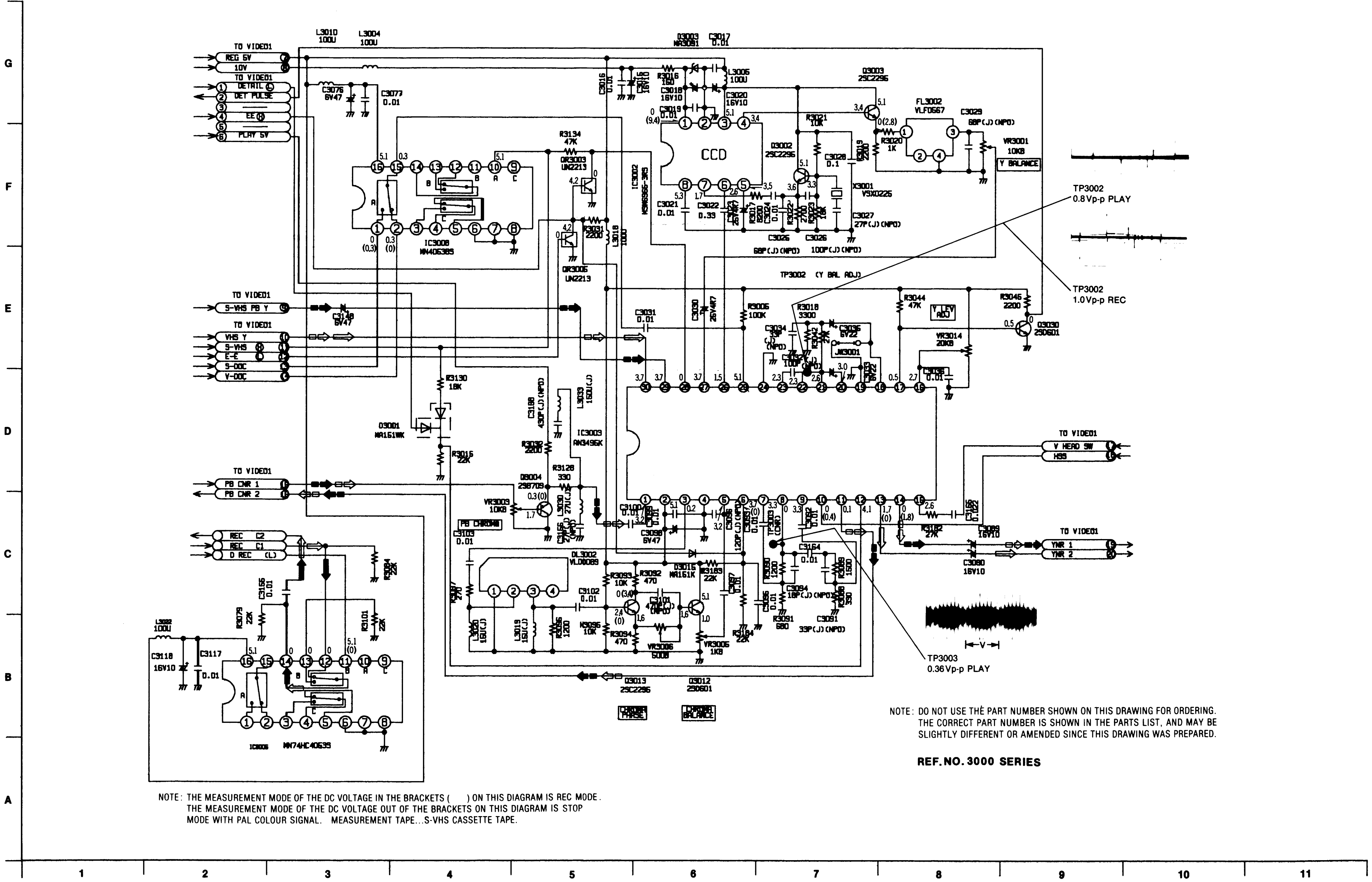
◁ MAIN SIGNAL PATH IN REC MODE(VHS).

◀■■ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).

◁□ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).


IC3002
MSM6965-3RS
VDD
VSS
S/H
VCC
V REF
CCD 565 STEP
CLAMP
CLOCK DRIVER
DUTY DET.
AUTO BIAS
WAVE FORM SHARPER


IC3003
AN3495K
DET
DOP DET
SP/ELP
DO
SP
LIM
LPF
DET3
CORR DET
YEQ
W.EX GCA
CEO
LIM
DET7
V.DET
EE DET
LIM ADJ
X.CTL


TO VIDEO1
REC 5V
10V
DET PULSE
EE
PLAY 5V
IC3008
MN4053B
CCD
Q3003
2SC2296
FL3002
VLF0567
Y BALANCE
X3001
VSX0225
TP3002
0.8Vp-p PLAY
TP3002
1.0Vp-p REC
TP3002 (Y BAL ADJ)
S-VHS PB Y
VHS Y
S-VHS
E-E
S-DOC
V-DOC
Y LEV ADJ
Q3030
2SD601
IC3003
AN3495K
D3001
MA161WK
Q3004
2SB709
PB CHROMA
VR3003
10KB
TO VIDEO1
V HEAD SW
HSS
PB CNR 1
PB CNR 2
REC C2
REC C1
D REC (L)
DL3002
VLD0089
IC3005
MN74HC4053S
Q3013
2SC2296
Q3012
2SD601
CARRIER PHASE
CARRIER BALANCE
TO VIDEO1
YNR 1
YNR 2
TP3003
0.36Vp-p PLAY
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

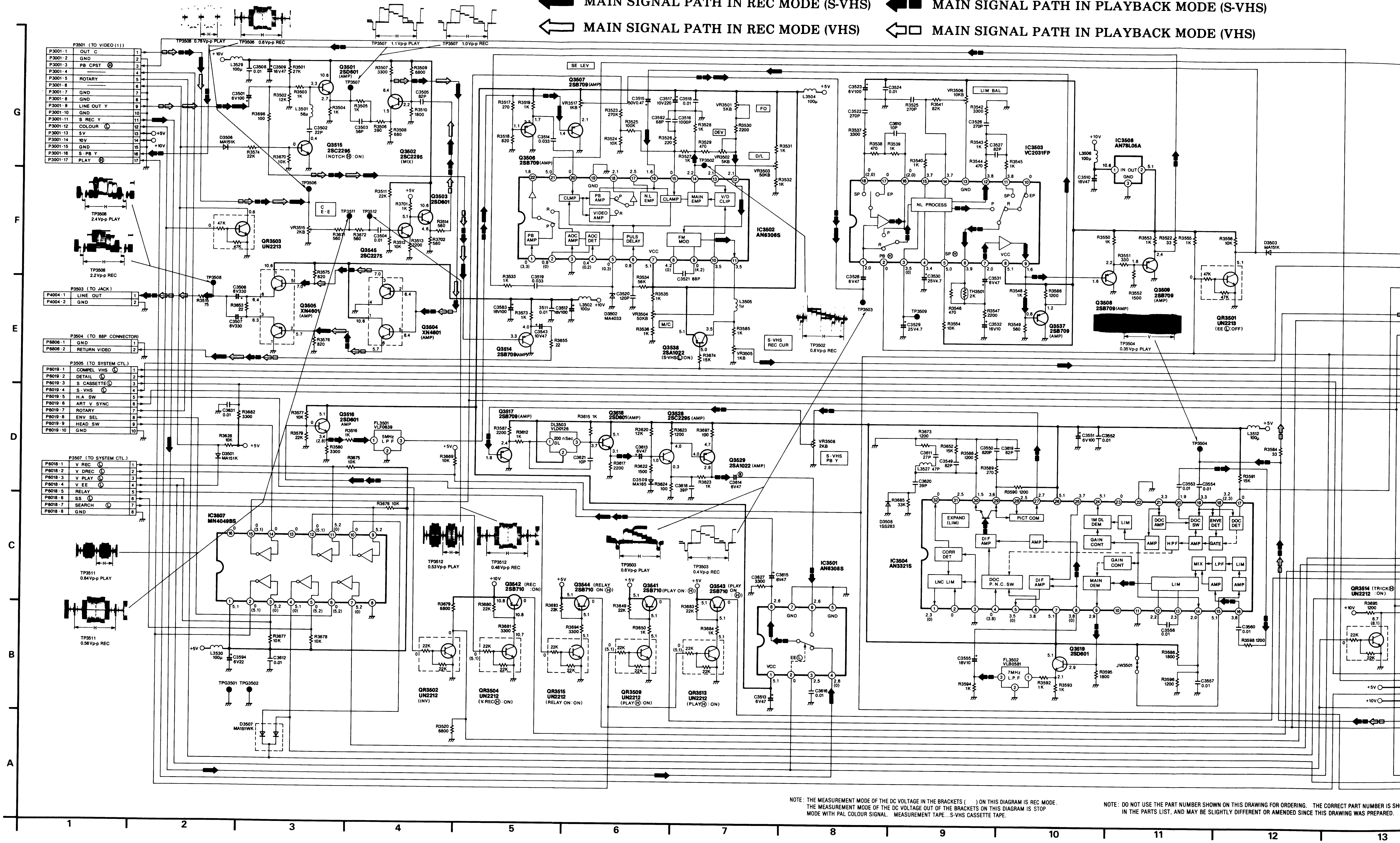
NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

REF. NO. 3000 SERIES

VIDEO (2) SCHEMATIC DIAGRAM [S-VHS MOD/DEMOD SECTION]

- ➡ MAIN SIGNAL PATH IN REC MODE (S-VHS)
- ⇨ MAIN SIGNAL PATH IN REC MODE (VHS)
- ◀■ MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)
- ⇦□ MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)

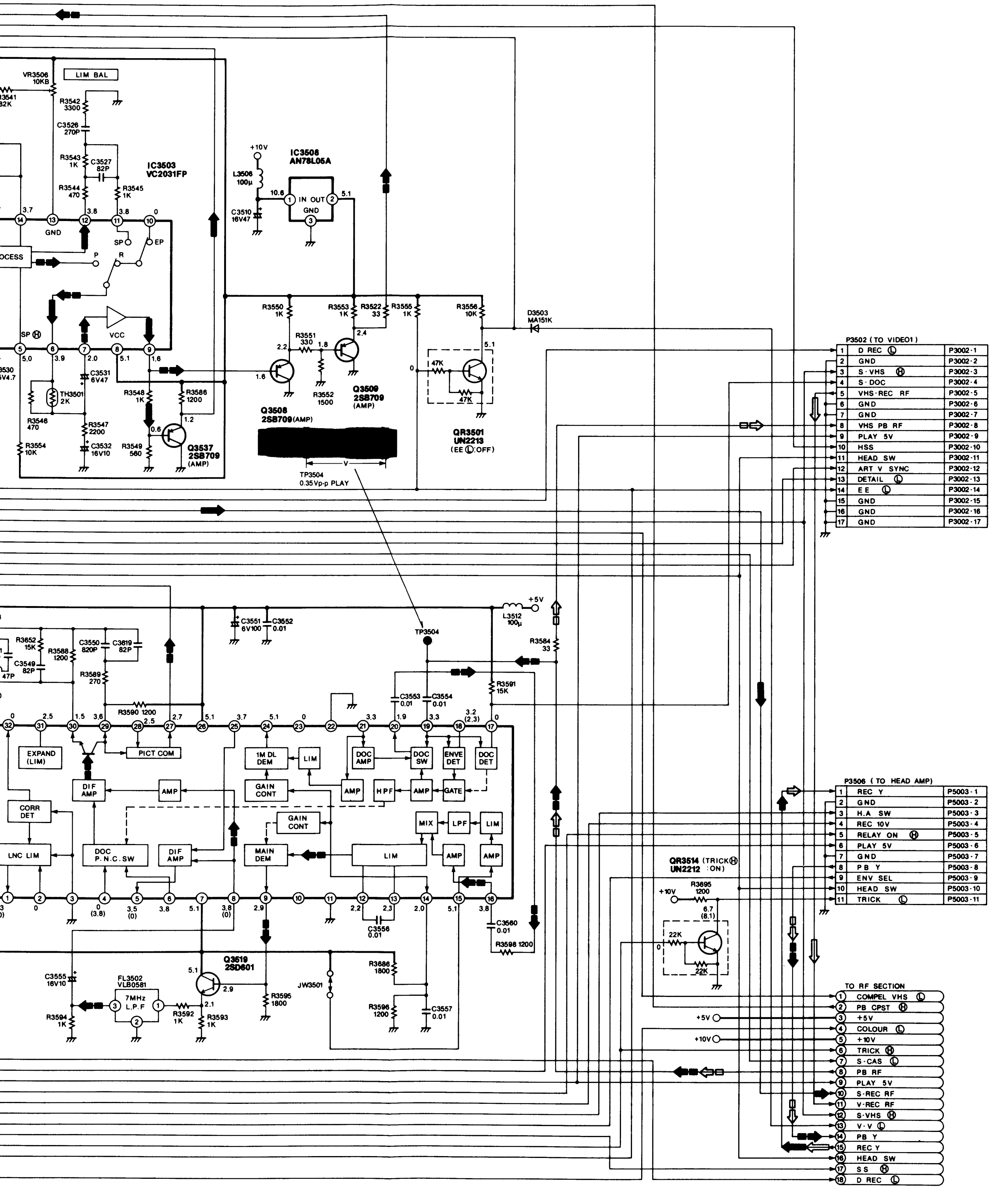

P3501 (TO VIDEO (1))
P3001-1 OUT C
P3001-2 GND
P3001-3 PB CPST Ⓗ
P3001-5 ROTARY
P3001-7 GND
P3001-8 GND
P3001-9 LINE OUT Y
P3001-10 GND
P3001-11 S REC Y
P3001-12 COLOUR Ⓛ
P3001-13 5V
P3001-14 10V
P3001-15 GND
P3001-16 S-PB Y
P3001-17 PLAY Ⓗ
P3503 (TO JACK)
P4004-1 LINE OUT
P4004-2 GND
P3504 (TO 68P CONNECTOR)
P6806-1 GND
P6806-2 RETURN VIDEO
P3505 (TO SYSTEM CTL.)
P6019-1 COMPEL VHS Ⓛ
P6019-2 DETAIL Ⓛ
P6019-3 S CASSETTE Ⓛ
P6019-4 S-VHS Ⓛ
P6019-5 H.A SW
P6019-6 ART V SYNC
P6019-7 ROTARY
P6019-8 ENV SEL
P6019-9 HEAD SW
P6019-10 GND
P3507 (TO SYSTEM CTL.)
P6018-1 V REC Ⓛ
P6018-2 V DREC Ⓛ
P6018-3 V PLAY Ⓛ
P6018-4 V EE Ⓛ
P6018-5 RELAY
P6018-6 SS Ⓛ
P6018-7 SEARCH Ⓛ
P6018-8 GND
TP3508 0.76Vp-p PLAY
TP3506 0.6Vp-p REC
TP3507 1.1Vp-p PLAY
TP3507 1.0Vp-p REC
TP3506 2.4Vp-p PLAY
TP3508 2.2Vp-p REC
TP3511 0.84Vp-p PLAY
TP3511 0.56Vp-p REC
TP3512 0.53Vp-p PLAY
TP3512 0.48Vp-p REC
TP3503 0.6Vp-p PLAY
TP3503 0.4Vp-p REC
TP3502 0.8Vp-p REC
TP3504 0.35Vp-p PLAY
Q3501 2SD601 (AMP)
Q3502 2SC2295 (MIX)
Q3503 2SD601
Q3515 2SC2295 (NOTCH Ⓗ: ON)
Q3545 2SC2275
QR3503 UN2213
Q3505 XN4601 (AMP)
Q3504 XN4601 (AMP)
Q3507 2SB709 (AMP)
Q3506 2SB709 (AMP)
Q3514 2SB709 (AMP)
Q3538 2SA1022 (S-VHS Ⓛ ON)
IC3502 AN6306S
CLMP
PB AMP
N.L EMP
CLAMP
MAIN EMP
V/D CLIP
VIDEO AMP
AOC AMP
AOC DET
PULS DELAY
FM MOD
VCC
SE LEV
FO
DEV
D/L
M/C
S-VHS REC CUR
IC3503 VC2031FP
LIM BAL
NL PROCESS
IC3508 AN78L05A
IN OUT GND
Q3508 2SB709 (AMP)
Q3509 2SB709 (AMP)
Q3537 2SB709 (AMP)
QR3501 UN2213 (EE Ⓛ: OFF)
Q3516 2SD601 AMP
FL3501 VLF0639 5MHz LPF
D3501 MA151K
Q3517 2SB709 (AMP)
DL3503 VLD0126 200 nSec DL
Q3518 2SD601 (AMP)
Q3528 2SC2295 (AMP)
Q3529 2SA1022 (AMP)
S-VHS PB Y
IC3507 MN4049BS
QR3502 UN2212 (INV)
Q3542 2SB710 (REC Ⓗ: ON)
QR3504 UN2212 (V.REC Ⓗ: ON)
Q3544 2SB710 (RELAY ON: Ⓗ)
QR3515 UN2212 (RELAY ON: ON)
Q3541 2SB710 (PLAY ON: Ⓗ)
QR3509 UN2212 (PLAY Ⓗ: ON)
Q3543 2SB710 (PLAY ON: Ⓗ)
QR3513 UN2212 (PLAY Ⓗ: ON)
IC3501 AN6308S
EE Ⓛ
D3507 MA151WK
TPG3501 TPG3502
IC3504 AN3321S
EXPAND (LIM)
CORR DET
LNC LIM
DIF AMP
DOC P.N.C. SW
PICT COM
1M DL DEM
GAIN CONT
MAIN DEM
DOC AMP
DOC SW
ENVE DET
DOC DET
HPF
GATE
MIX
LPF
Q3519 2SD601
FL3502 VLB0581 7MHz LPF
QR3514 (TRICK Ⓗ: ON) UN2212
A B C D E F G
1 2 3 4 5 6 7 8 9 10 11 12 13

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SH
IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

MAIN SIGNAL PATH IN PLAYBACK MODE (S-VHS)

MAIN SIGNAL PATH IN PLAYBACK MODE (VHS)


LIM BAL
IC3503 VC2031FP
IC3508 AN78L05A
IN OUT GND
+10V
Q3508 2SB709(AMP)
Q3509 2SB709 (AMP)
Q3537 2SB709 (AMP)
QR3501 UN2213 (EE Ⓛ OFF)
D3503 MA151K
TP3504 0.35Vp-p PLAY
P3502 (TO VIDEO1)
D REC Ⓛ
GND
S-VHS Ⓗ
S-DOC
VHS-REC RF
VHS PB RF
PLAY 5V
HSS
HEAD SW
ART V SYNC
DETAIL Ⓛ
EE Ⓛ
P3506 (TO HEAD AMP)
REC Y
H.A SW
REC 10V
RELAY ON Ⓗ
PLAY 5V
PB Y
ENV SEL
HEAD SW
TRICK Ⓛ
EXPAND (LIM)
CORR DET
LNC LIM
DIF AMP
PICT COM
1M DL DEM
GAIN CONT
MAIN DEM
DOC P.N.C.SW
DOC AMP
DOC SW
ENVE DET
DOC DET
HPF
LPF
MIX
GATE
LIM
AMP
Q3519 2SD601
FL3502 VLB0581 7MHz L.P.F
JW3501
QR3514 (TRICK Ⓗ) UN2212 : ON)
TO RF SECTION
COMPEL VHS Ⓛ
PB CPST Ⓗ
+5V
COLOUR Ⓛ
+10V
TRICK Ⓗ
S-CAS Ⓛ
PB RF
PLAY 5V
S-REC RF
V-REC RF
S-VHS Ⓗ
V-V Ⓛ
PB Y
REC Y
HEAD SW
SS Ⓗ
D REC Ⓛ
9
10
11
12
13
14

THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE.
UT OF THE BRACKETS ON THIS DIAGRAM IS STOP
T TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

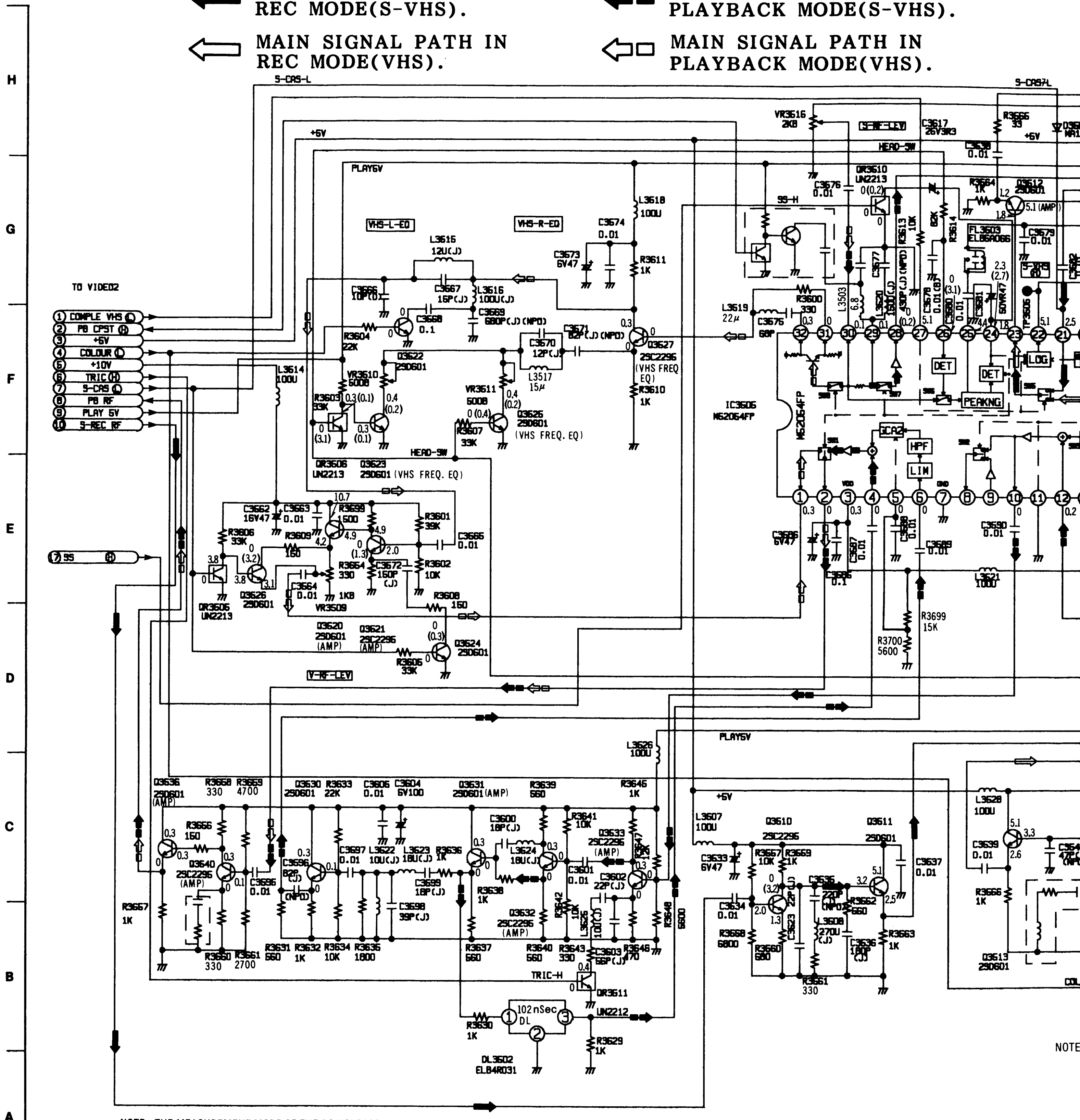
VIDEO (2) SCHEMATIC DIAGRAM [RF EQ SECTION]

⬅ MAIN SIGNAL PATH IN REC MODE(S-VHS).

⇦ MAIN SIGNAL PATH IN REC MODE(VHS).

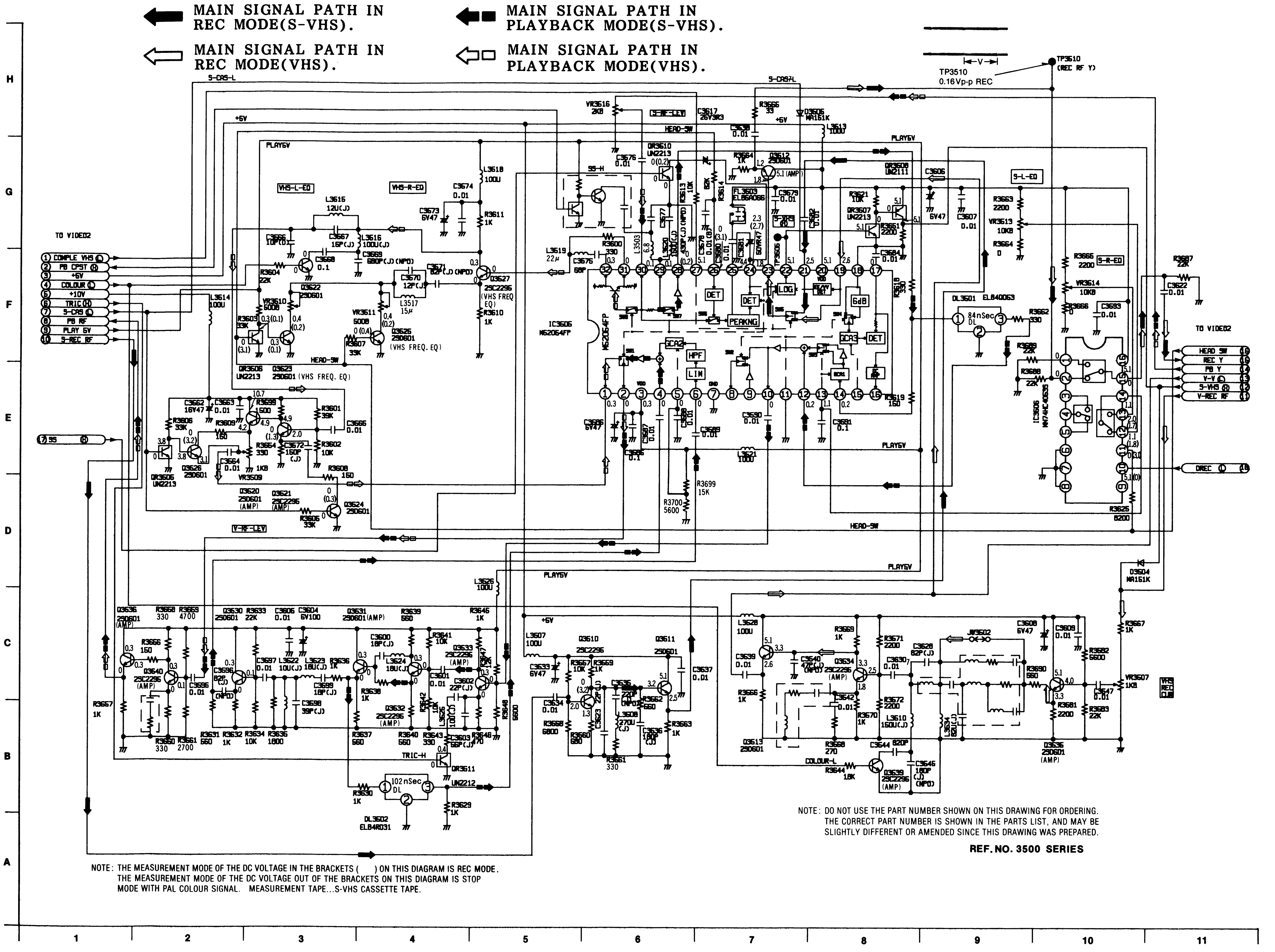
⬅■ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).

⇦□ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).


H
G
F
E
D
C
B
A
S-CAS-L
+5V
PLAY5V
TO VIDEO2
COMPLE VHS Ⓛ
PB CPST Ⓗ
+5V
COLOUR Ⓛ
+10V
TRIC Ⓗ
S-CAS Ⓛ
PB RF
PLAY 5V
S-REC RF
SS Ⓗ
VHS-L-EQ
VHS-R-EQ
Q3527 2SC2295 (VHS FREQ EQ)
Q3625 2SD601 (VHS FREQ. EQ)
QR3606 UN2213
Q3623 2SD601 (VHS FREQ. EQ)
HEAD-SW
Q3626 2SD601
QR3605 UN2213
VR3509
Q3620 2SD601 (AMP)
Q3621 2SC2295 (AMP)
Q3624 2SD601
Y-RF-LEV
IC3606 M52064FP
DET
PEAKNG
LOG
HPF
LIM
SCAN
SS-H
QR3610 UN2213
Q3612 2SD601
FL3603 ELB6A066
S-RF-LEV
HEAD-SW
Q3636 2SD601 (AMP)
Q3640 2SC2296 (AMP)
Q3630 2SD601
Q3631 2SD601(AMP)
Q3633 2SC2296 (AMP)
Q3632 2SC2296 (AMP)
TRIC-H
QR3611 UN2212
102nSec DL
DL3602 ELB4R031
Q3610 2SC2296
Q3611 2SD601
Q3613 2SD601
1
2
3
4
5
6
7

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

VIDEO (2) SCHEMATIC DIAGRAM [RF EQ SECTION]


MAIN SIGNAL PATH IN REC MODE(S-VHS).
MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).
MAIN SIGNAL PATH IN REC MODE(VHS).
MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).
TP3510 0.16Vp-p REC
TP3510 (REC RF Y)
TO VIDEO2
① COMPLE VHS
② PB CPST
③ +5V
④ COLOUR
⑤ +10V
⑥ TRIC
⑦ S-CAS
⑧ PB RF
⑨ PLAY 5V
⑩ S-REC RF
⑰ SS
IC3506 M52064FP
DL3601 ELB40063 84nSec DL
DL3602 ELB4R031 102nSec DL
IC3508 MN74HC4053S
HEAD SW
REC Y
PB Y
V-Y
S-VHS
V-REC RF
DREC
VHS-L-EQ
VHS-R-EQ
S-L-EQ
S-R-EQ
V-RF-LEV
S-RF-LEV
HEAD-SW
PLAY6V
+6V
S-CAS-L
S-CAS-H
TRIC-H
COLOUR-L
HPF
LIM
DET
PEAKNG
LOG
6dB
SCA3
SCA2
H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

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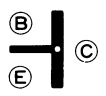
REF. NO. 3500 SERIES

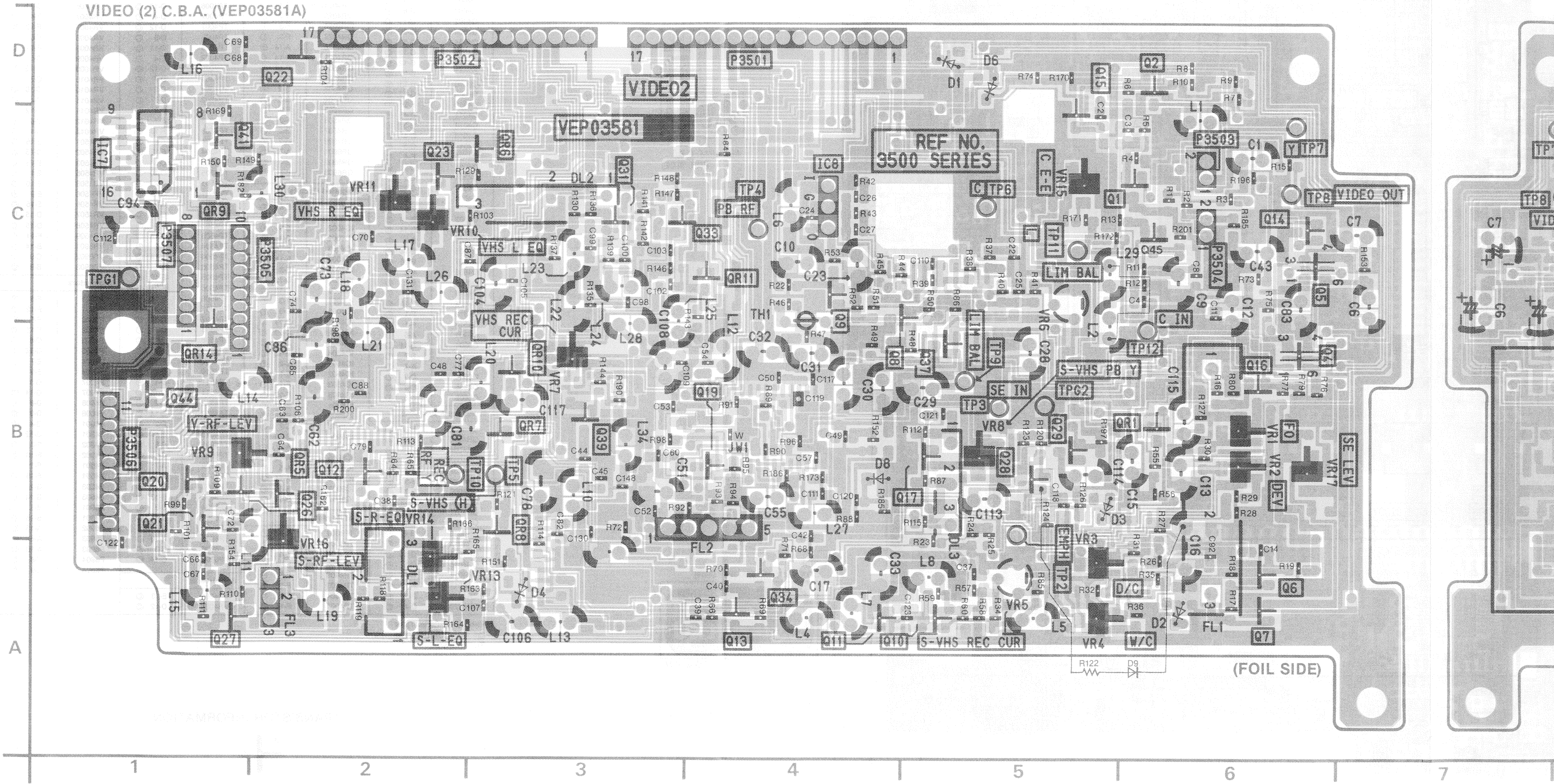
VIDEO (2) C.B.A.		
Transistors		
Q3501	C-5	Ⓕ
Q3502	D-6	Ⓕ
Q3504	B-6	Ⓕ
Q3505	C-6	Ⓕ
Q3506	A-6	Ⓕ
Q3507	A-6	Ⓕ
Q3508	B-4	Ⓕ
Q3509	B-4	Ⓕ
Q3510	A-4	Ⓕ
Q3511	A-4	Ⓕ
Q3512	B-2	Ⓕ
Q3513	A-4	Ⓕ
Q3514	C-6	Ⓕ
Q3515	D-5	Ⓕ
Q3515	C-6	Ⓕ
Q3516	B-6	Ⓕ
Q3517	B-5	Ⓕ
Q3518	B-9	Ⓒ
Q3519	B-4	Ⓕ
Q3520	B-1	Ⓕ
Q3521	B-1	Ⓕ
Q3522	D-2	Ⓕ
Q3523	C-2	Ⓕ
Q3524	B-12	Ⓒ
Q3525	C-12	Ⓒ
Q3526	B-2	Ⓕ
Q3527	A-1	Ⓕ
Q3528	B-5	Ⓕ
Q3529	B-5	Ⓕ
Q3530	B-11	Ⓒ
Q3531	C-3	Ⓕ
Q3532	C-11	Ⓒ
Q3533	C-4	Ⓕ
Q3534	A-4	Ⓕ
Q3535	B-11	Ⓒ
Q3536	C-10	Ⓒ
Q3537	B-5	Ⓕ
Q3538	A-9	Ⓒ
Q3539	B-3	Ⓕ
Q3540	C-10	Ⓒ
Q3541	C-1	Ⓕ
Q3542	A-13	Ⓒ
Q3543	C-12	Ⓒ
Q3544	B-1	Ⓕ
Transistor & Resistors		
QR3501	B-6	Ⓕ
QR3502	A-13	Ⓒ
QR3503	C-9	Ⓒ
QR3504	B-13	Ⓒ
QR3505	B-2	Ⓕ
QR3506	C-3	Ⓕ
QR3507	B-3	Ⓕ
QR3508	B-3	Ⓕ
QR3509	C-1	Ⓕ
QR3510	B-3	Ⓕ
QR3511	C-4	Ⓕ
QR3513	D-12	Ⓒ
QR3514	B-1	Ⓕ
QR3515	B-13	Ⓒ
Integrated Circuits		
IC3501	B-8	Ⓒ
IC3502	B-8	Ⓒ
IC3503	C-9	Ⓒ
IC3504	B-10	Ⓒ
IC3505	B-12	Ⓒ
IC3506	A-11	Ⓒ
IC3507	C-1	Ⓕ
IC3508	C-4	Ⓕ
IC3508	C-10	Ⓒ
Test Points		
TP3502	A-5	Ⓕ
TP3502	B-9	Ⓒ
TP3503	B-5	Ⓕ
TP3503	B-9	Ⓒ
TP3504	C-4	Ⓕ
TP3504	C-10	Ⓒ
TP3505	B-3	Ⓕ
TP3505	B-11	Ⓒ
TP3506	C-9	Ⓒ
TP3507	C-7	Ⓒ
TP3508	C-6	Ⓕ
TP3508	C-7	Ⓒ
TP3509	B-5	Ⓕ
TP3509	B-9	Ⓒ
TP3510	B-3	Ⓕ
TP3510	B-11	Ⓒ
TP3511	C-5	Ⓕ
TP3511	C-8	Ⓒ
TP3512	B-6	Ⓕ
TP3512	C-8	Ⓒ
TPG3501	C-1	Ⓕ
TPG3501	C-13	Ⓒ
TPG3502	B-5	Ⓕ
TPG3502	B-9	Ⓒ
Adjustments		
VR3501	B-6	Ⓕ
VR3502	B-6	Ⓕ
VR3503	A-5	Ⓕ
VR3504	A-5	Ⓕ
VR3505	A-5	Ⓕ
VR3505	A-9	Ⓒ
VR3506	B-5	Ⓕ
VR3506	C-9	Ⓒ
VR3508	B-5	Ⓕ
VR3509	B-1	Ⓕ
VR3511	C-2	Ⓕ
VR3513	A-3	Ⓕ
VR3514	B-2	Ⓕ
VR3515	C-5	Ⓕ
VR3516	A-2	Ⓕ
VR3517	B-6	Ⓕ
Connectors		
P3501	D-4	Ⓕ
P3501	D-10	Ⓒ
P3502	D-2	Ⓕ
P3502	D-11	Ⓒ
P3503	C-6	Ⓕ
P3503	C-8	Ⓒ
P3504	C-6	Ⓕ
P3504	C-8	Ⓒ
P3505	C-2	Ⓕ
P3505	C-12	Ⓒ
P3506	B-1	Ⓕ
P3506	B-13	Ⓒ
P3507	C-1	Ⓕ
P3507	C-13	Ⓒ

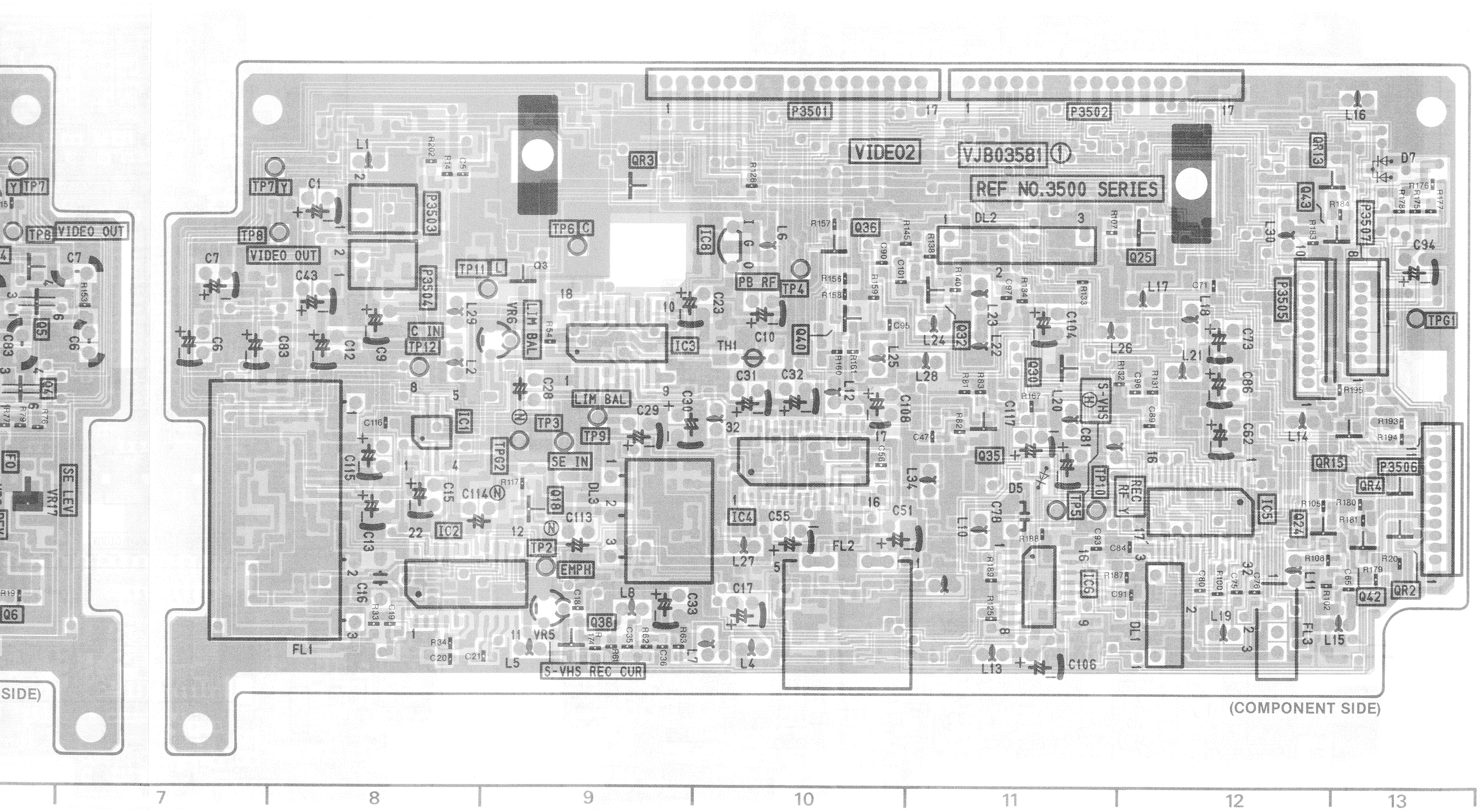
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION

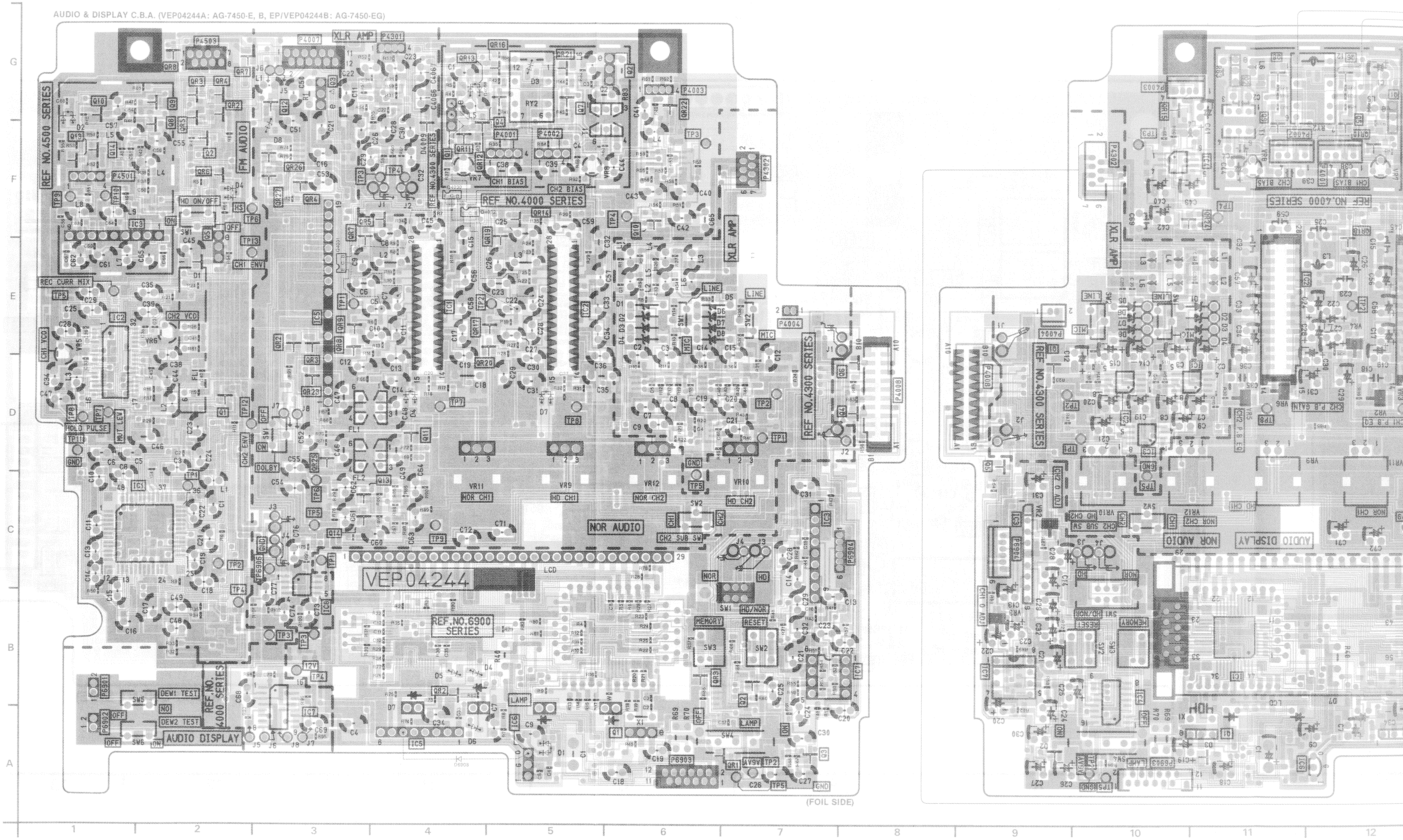


VIDEO (2) C.B.A. (VEP03581A)


VIDEO (2) C.B.A. (VEP03581A)
D
C
B
A
1
2
3
4
5
6
7
VIDEO2
VEP03581
REF NO. 3500 SERIES
P3502
P3501
P3503
P3504
P3505
P3506
P3507
IC7
IC8
VIDEO OUT
TP8
Y TP7
C TP6
TP4
PB RF
TPG1
TPG2
TP3
TP5
TP9
TP10
TP11
TP12
TP2
VHS R EQ
VHS L EQ
VHS REC CUR
S-VHS PB Y
S-VHS REC CUR
S-VHS (H)
S-R-EQ
S-L-EQ
S-RF-LEV
V-RF-LEV
RF REC Y
LIM BAL
C E-E
C IN
SE IN
SE LEV
F0
DEV
EMPH
D/C
W/C
FL1
FL2
FL3
DL1
DL2
DL3
TH1
JW1
VR1
VR2
VR3
VR4
VR5
VR6
VR7
VR8
VR9
VR10
VR11
VR13
VR14
VR15
VR16
VR17
Q1
Q2
Q4
Q5
Q6
Q7
Q8
Q9
Q10
Q11
Q12
Q13
Q14
Q15
Q16
Q17
Q19
Q20
Q21
Q22
Q23
Q26
Q27
Q28
Q29
Q31
Q33
Q34
Q37
Q39
Q41
Q44
Q45
QR1
QR5
QR6
QR7
QR8
QR9
QR10
QR11
QR14
D1
D2
D3
D4
D6
D8
D9
R122
(FOIL SIDE)


P3501
P3502
VIDEO2
VJB03581 ①
REF NO.3500 SERIES
QR3
QR13
Q43
P3507
D7
L16
TP7 Y
TP8
VIDEO OUT
C1
C7
C43
C83
C6
C12
C9
P3503
P3504
L1
TP6 C
TP11 L
Q3
IC8
L6
PB RF
TP4
Q36
DL2
Q25
L30
C94
P3505
TPG1
C IN
TP12
VR6
LIM BAL
L29
L2
IC3
TH1
C10
C23
Q40
Q32
L23
L22
L24
L25
L28
C104
L17
L18
L26
L21
C73
C86
C62
L14
IC1
TPG2
C28
TP3
TP9
SE IN
C29
C30
C31
C32
C108
C117
Q30
L20
S-VHS
C81
Q35
D5
TP10
REC RF Y
IC5
QR15
P3506
QR4
Q24
C115
C13
C15
C114
Q18
DL3
C113
IC2
TP2
EMPH
IC4
C55
FL2
C51
L34
L10
C78
TP5
IC6
DL1
L11
Q42
QR2
FL1
C16
L27
L8
C33
C17
VR5
Q38
L5
L4
L7
S-VHS REC CUR
L13
C106
L19
FL3
L15
(COMPONENT SIDE)
SE LEV
VR17
SIDE)
7
8
9
10
11
12
13

AUDIO & DISPLAY C.B.A. (VEP04244A: AG-7450-E/B/EP, VEP04244B: AG-7450-EG)


AUDIO & DISPLAY C.B.A. (VEP04244A: AG-7450-E, B, EP/VEP04244B: AG-7450-EG)
REF NO.4500 SERIES
FM AUDIO
XLR AMP
REF NO.4300 SERIES
REF NO.4000 SERIES
CH1 BIAS
CH2 BIAS
HD ON/OFF
CH1 ENV
REC CURR MIX
CH2 VCO
CH1 VCO
HOLD PULSE
MUT LEV
CH2 ENV
DOLBY
NOR CH1
HD CH1
NOR CH2
HD CH2
NOR AUDIO
CH2 SUB SW
VEP04244
LCD
REF.NO.6900 SERIES
MEMORY
RESET
HD/NOR
LAMP
DEW1 TEST
DEW2 TEST
REF.NO. 4000 SERIES
AUDIO DISPLAY
(FOIL SIDE)
G
F
E
D
C
B
A
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2
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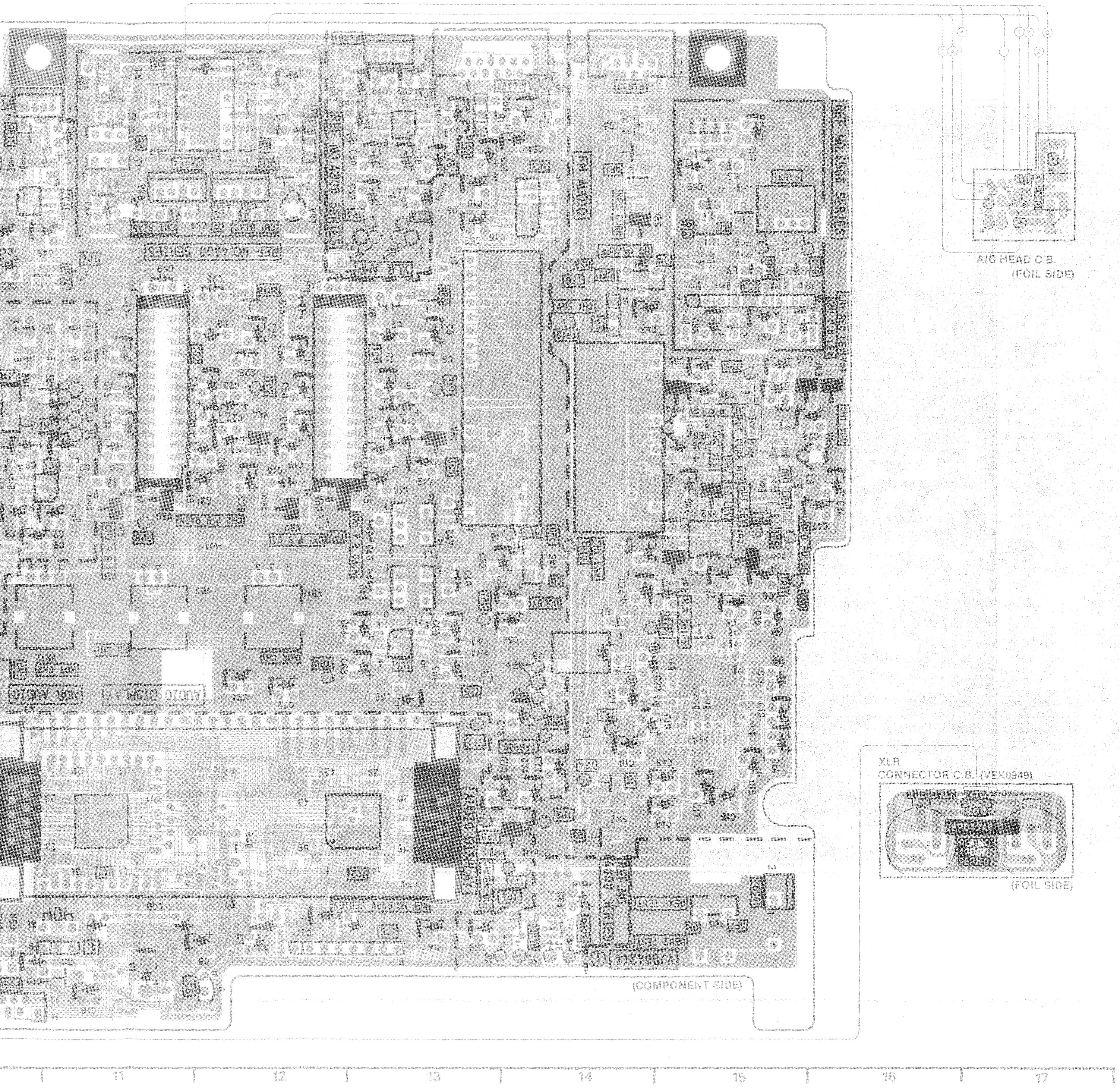
12


REF NO.4500 SERIES
REF NO.4300 SERIES
REF NO.4000 SERIES
FM AUDIO
XLR AMP
CH1 BIAS
CH2 BIAS
AUDIO DISPLAY
NOR AUDIO
REF.NO.6900 SERIES
REF.NO. 4000 SERIES
VJB04244
(COMPONENT SIDE)
A/C HEAD C.B.
(FOIL SIDE)
XLR
CONNECTOR C.B. (VEK0949)
AUDIO XLR
VEP04246
REF.NO. 4700 SERIES
(FOIL SIDE)
11
12
13
14
15
16
17

AUDIO & DISPLAY C.B.A.

Transistors

Q4001	F-4	Ⓕ
Q4001	G-12	Ⓒ
Q4002	G-6	Ⓕ
Q4002	G-11	Ⓒ
Q4003	G-3	Ⓕ
Q4004	G-5	Ⓕ
Q4005	G-12	Ⓒ
Q4006	G-12	Ⓒ
Q4007	G-5	Ⓕ
Q4008	G-11	Ⓒ
Q4009	G-11	Ⓒ
Q4010	F-6	Ⓕ
Q4011	D-4	Ⓕ
Q4012	G-3	Ⓕ
Q4013	C-4	Ⓕ
Q4014	C-3	Ⓕ
Q4030	F-4	Ⓕ
Q4031	E-3	Ⓕ
Q4301	E-9	Ⓒ
Q4303	G-13	Ⓒ
Q4501	D-2	Ⓕ
Q4502	F-2	Ⓕ
Q4503	B-14	Ⓒ
Q4504	B-14	Ⓒ
Q4505	F-2	Ⓕ
Q4505	E-14	Ⓒ
Q4507	F-15	Ⓒ
Q4508	F-2	Ⓕ
Q4509	G-2	Ⓕ
Q4510	G-1	Ⓕ
Q4512	F-15	Ⓒ
Q4513	F-1	Ⓕ
Q4514	F-1	Ⓕ
Q6901	A-6	Ⓕ
Q6901	A-11	Ⓒ
Q6902	B-7	Ⓕ
Q6903	A-7	Ⓕ
Q6904	D-8	Ⓕ
Q6905	D-9	Ⓒ
Q6906	D-8	Ⓕ

Transistor & Resistors

QR4002	E-3	Ⓕ
QR4003	D-3	Ⓕ
QR4004	F-3	Ⓕ
QR4005	F-3	Ⓕ
QR4007	F-3	Ⓕ
QR4008	E-3	Ⓕ
QR4009	E-3	Ⓕ
QR4010	F-12	Ⓒ
QR4011	F-4	Ⓕ
QR4012	F-4	Ⓕ
QR4013	G-4	Ⓕ
QR4014	F-5	Ⓕ
QR4015	G-10	Ⓒ
QR4016	G-5	Ⓕ
QR4017	E-4	Ⓕ
QR4018	F-12	Ⓒ
QR4019	F-5	Ⓕ
QR4020	D-4	Ⓕ
QR4021	G-5	Ⓕ
QR4022	G-6	Ⓕ
QR4023	D-3	Ⓕ
QR4024	F-11	Ⓒ
QR4025	D-3	Ⓕ
QR4026	F-3	Ⓕ
QR4027	F-3	Ⓕ
QR4028	A-14	Ⓒ
QR4029	A-14	Ⓒ
QR4501	F-14	Ⓒ
QR4502	G-2	Ⓕ
QR4503	G-2	Ⓕ
QR4504	G-2	Ⓕ
QR4505	F-2	Ⓕ
QR4506	F-2	Ⓕ
QR4507	G-2	Ⓕ
QR4508	G-2	Ⓕ
QR6901	A-7	Ⓕ
QR6902	B-4	Ⓕ
QR6903	B-6	Ⓕ

Integrated Circuits

IC4001	E-4	Ⓕ
IC4001	E-13	Ⓒ
IC4002	E-5	Ⓕ
IC4002	E-9	Ⓒ
IC4003	F-14	Ⓒ
IC4004	F-11	Ⓒ
IC4005	E-3	Ⓕ
IC4005	D-13	Ⓒ
IC4006	C-13	Ⓒ
IC4007	A-3	Ⓕ
IC4008	B-3	Ⓕ
IC4301	D-11	Ⓒ
IC4302	D-10	Ⓒ
IC4303	D-10	Ⓒ
IC4304	G-13	Ⓒ
IC4501	C-2	Ⓕ
IC4502	E-1	Ⓕ
IC4503	F-1	Ⓕ
IC4503	F-15	Ⓒ
IC6901	B-11	Ⓒ
IC6902	B-13	Ⓒ
IC6903	C-7	Ⓕ
IC6904	B-10	Ⓒ
IC6905	A-4	Ⓕ
IC6905	A-13	Ⓒ
IC6906	A-5	Ⓕ
IC6906	A-11	Ⓒ
IC6907	B-8	Ⓕ
IC6907	B-9	Ⓒ

Test Points

TP4001	E-3	Ⓕ
TP4001	E-13	Ⓒ
TP4002	E-4	Ⓕ
TP4002	E-12	Ⓒ
TP4003	F-6	Ⓕ
TP4003	F-10	Ⓒ
TP4004	F-6	Ⓕ
TP4004	F-11	Ⓒ
TP4005	C-3	Ⓕ
TP4005	C-13	Ⓒ
TP4006	C-3	Ⓕ
TP4006	D-13	Ⓒ
TP4007	D-4	Ⓕ
TP4007	D-12	Ⓒ
TP4008	D-5	Ⓕ
TP4008	D-11	Ⓒ
TP4009	C-4	Ⓕ
TP4009	C-12	Ⓒ
TP4301	D-7	Ⓕ
TP4301	D-9	Ⓒ
TP4302	D-7	Ⓕ
TP4302	D-9	Ⓒ
TP4303	F-3	Ⓕ
TP4303	F-13	Ⓒ
TP4304	F-4	Ⓕ
TP4304	F-13	Ⓒ
TP4305	C-5	Ⓕ
TP4305	C-10	Ⓒ
TP4501	C-2	Ⓕ
TP4501	C-15	Ⓒ
TP4502	C-2	Ⓕ
TP4502	C-14	Ⓒ
TP4503	B-3	Ⓕ
TP4503	B-14	Ⓒ
TP4504	B-2	Ⓕ
TP4504	B-14	Ⓒ
TP4505	E-1	Ⓕ
TP4505	E-15	Ⓒ
TP4506	F-2	Ⓕ
TP4506	F-14	Ⓒ
TP4507	D-1	Ⓕ
TP4507	D-15	Ⓒ
TP4508	D-1	Ⓕ
TP4508	D-15	Ⓒ
TP4509	F-1	Ⓕ
TP4509	F-16	Ⓒ
TP4510	F-1	Ⓕ
TP4511	D-1	Ⓕ
TP4511	D-15	Ⓒ
TP4512	D-2	Ⓕ
TP4512	D-14	Ⓒ
TP4513	E-2	Ⓕ
TP4513	E-14	Ⓒ
TP6901	C-3	Ⓕ
TP6901	C-13	Ⓒ
TP6902	A-7	Ⓕ
TP6902	A-10	Ⓒ
TP6903	B-3	Ⓕ
TP6903	B-13	Ⓒ
TP6904	B-3	Ⓕ
TP6904	B-14	Ⓒ
TP6905	A-7	Ⓕ
TP6905	A-10	Ⓒ
TP6906	C-3	Ⓕ
TP6906	C-14	Ⓒ

Adjustments

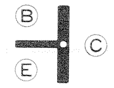
VR4001	E-13	Ⓒ
VR4002	D-12	Ⓒ
VR4003	D-12	Ⓒ
VR4004	E-12	Ⓒ
VR4005	D-11	Ⓒ
VR4006	D-11	Ⓒ
VR4007	F-4	Ⓕ
VR4007	F-12	Ⓒ
VR4008	F-6	Ⓕ
VR4008	F-11	Ⓒ
VR4009	C-5	Ⓕ
VR4009	D-12	Ⓒ
VR4010	C-7	Ⓕ
VR4010	C-10	Ⓒ
VR4011	C-4	Ⓕ
VR4011	D-12	Ⓒ
VR4012	C-6	Ⓕ
VR4012	C-11	Ⓒ
VR4501	E-16	Ⓒ
VR4502	D-15	Ⓒ
VR4503	E-16	Ⓒ
VR4505	E-1	Ⓕ
VR4505	E-16	Ⓒ
VR4506	E-2	Ⓕ
VR4506	E-15	Ⓒ
VR4507	D-15	Ⓒ
VR4508	D-15	Ⓒ
VR4509	F-14	Ⓒ
VR6901	B-14	Ⓒ
VR6902	C-9	Ⓒ
VR6903	B-9	Ⓒ

Connectors

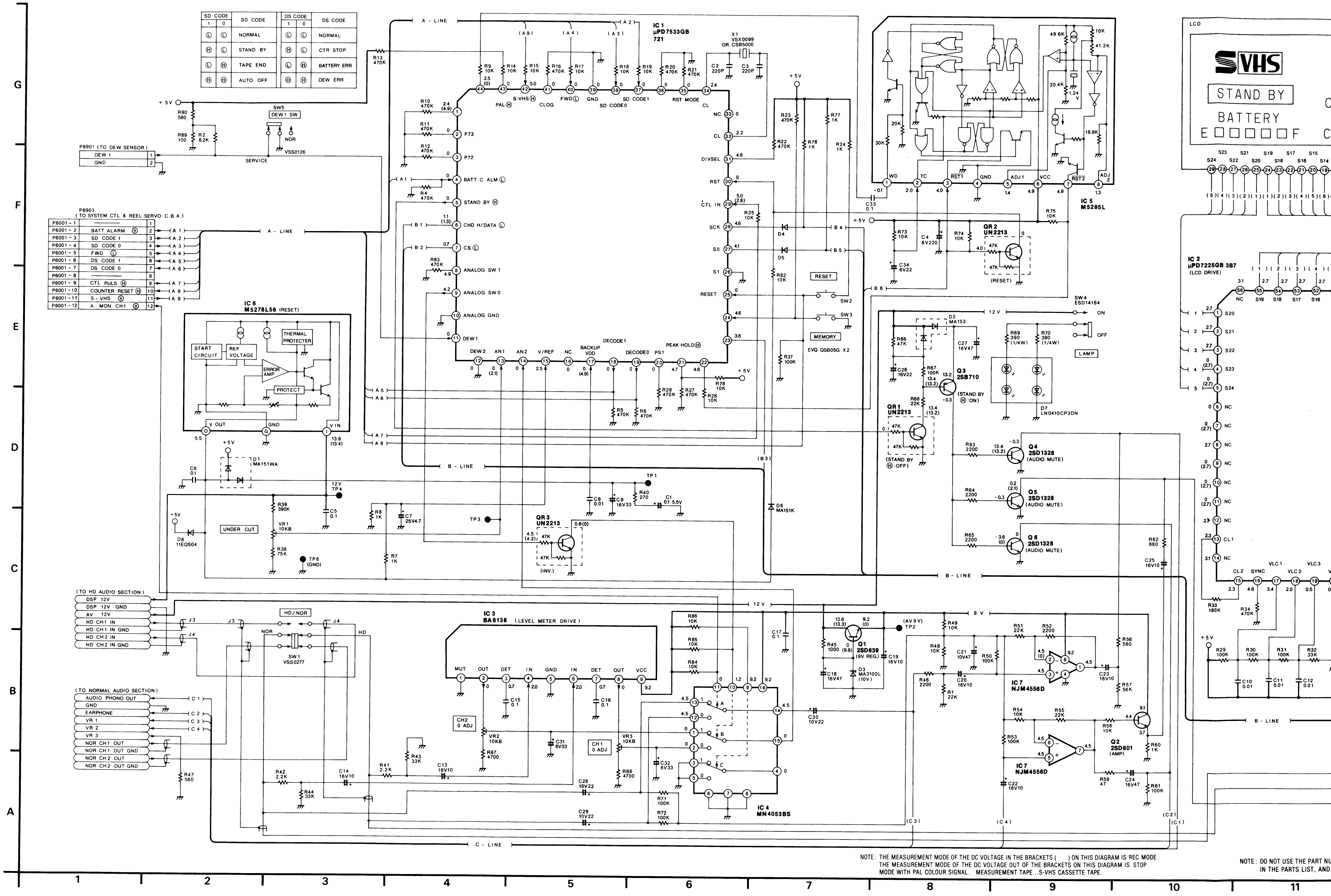
P4001	F-5	Ⓕ
P4001	F-12	Ⓒ
P4002	F-5	Ⓕ
P4002	F-11	Ⓒ
P4003	G-6	Ⓕ
P4003	G-10	Ⓒ
P4004	E-7	Ⓕ
P4004	E-9	Ⓒ
P4007	G-3	Ⓕ
P4007	G-14	Ⓒ
P4008	D-8	Ⓕ
P4008	D-9	Ⓒ
P4301	G-4	Ⓕ
P4301	G-12	Ⓒ
P4302	F-7	Ⓕ
P4302	F-10	Ⓒ
P4501	F-1	Ⓕ
P4501	F-15	Ⓒ
P4503	G-2	Ⓕ
P4503	G-14	Ⓒ
P6901	B-1	Ⓕ
P6901	B-15	Ⓒ
P6902	A-15	Ⓒ
P6903	A-6	Ⓕ
P6903	A-10	Ⓒ
P6904	C-8	Ⓕ
P6904	C-9	Ⓒ

ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION



DISPLAY SCHEMATIC DIAGRAM

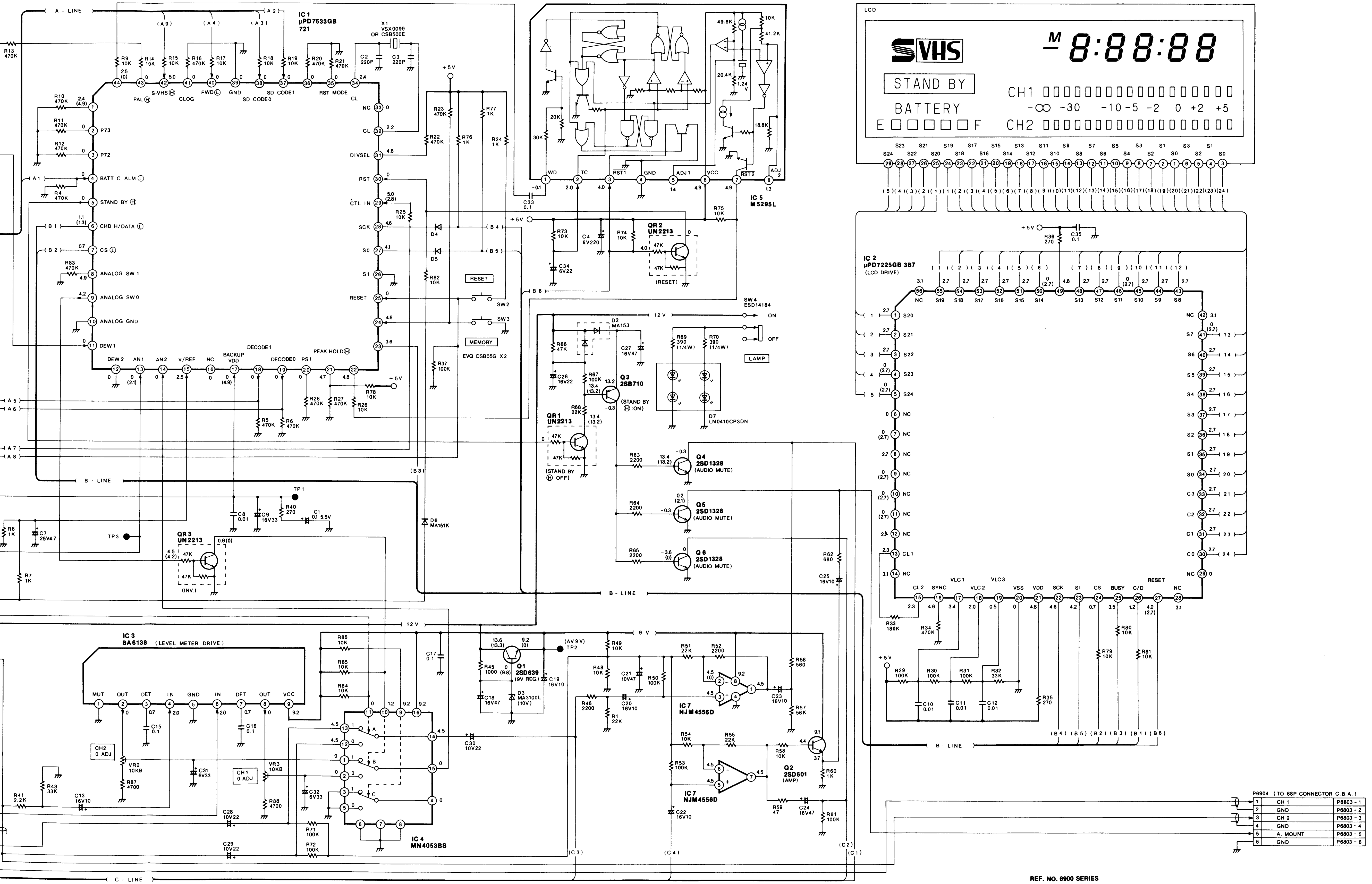


SD CODE 1	SD CODE 0	SD CODE	DS CODE 1	DS CODE 0	DS CODE
Ⓛ	Ⓛ	NORMAL	Ⓛ	Ⓛ	NORMAL
Ⓗ	Ⓛ	STAND BY	Ⓗ	Ⓛ	CTR STOP
Ⓛ	Ⓗ	TAPE END	Ⓛ	Ⓗ	BATTERY ERR
Ⓗ	Ⓗ	AUTO OFF	Ⓗ	Ⓗ	DEW ERR

A B C D E F G
1 2 3 4 5 6 7 8 9 10 11
IC 1 µPD7533GB 721
X1 VSX0099 OR CSB500E
IC 5 M5295L
IC 6 M5278L56 (RESET)
START CIRCUIT
REF VOLTAGE
THERMAL PROTECTER
ERROR AMP
PROTECT
V OUT
GND
V IN
IC 2 µPD7225GB 3B7 (LCD DRIVE)
IC 3 BA6138 (LEVEL METER DRIVE)
IC 4 MN4053BS
IC 7 NJM4556D
QR1 UN2213 (STAND BY Ⓗ:OFF)
QR2 UN2213 (RESET)
QR3 UN2213 (INV.)
Q1 2SD639 (9V REG.)
Q2 2SD601 (AMP)
Q3 2SB710 (STAND BY Ⓗ:ON)
Q4 2SD1328 (AUDIO MUTE)
Q5 2SD1328 (AUDIO MUTE)
Q6 2SD1328 (AUDIO MUTE)
D1 MA151WA
D2 MA153
D3 MA3100L (10V)
D6 MA151K
D7 LN0410CP3DN
D8 11EQS04
SW1 VSS0277
SW4 ESD14184
SW5 DEW1 SW
VSS0126
EVQ QSB05G X2
RESET
MEMORY
LAMP
UNDER CUT
HD/NOR
CH1 0 ADJ
CH2 0 ADJ
P6901 (TO DEW SENSOR)
DEW 1
GND
SERVICE
P6903 (TO SYSTEM CTL & REEL SERVO C.B.A.)
P6001-1
P6001-2 BATT ALARM Ⓗ
P6001-3 SD CODE 1
P6001-4 SD CODE 0
P6001-5 FWD Ⓛ
P6001-6 DS CODE 1
P6001-7 DS CODE 0
P6001-8
P6001-9 CTL PULS Ⓗ
P6001-10 COUNTER RESET Ⓗ
P6001-11 S-VHS Ⓗ
P6001-12 A. MON CH1 Ⓗ
(TO HD AUDIO SECTION)
DSP 12V
DSP 12V GND
AV 12V
HD CH1 IN
HD CH1 IN GND
HD CH2 IN
HD CH2 IN GND
(TO NORMAL AUDIO SECTION)
AUDIO PHONO OUT
GND
EARPHONE
VR 1
VR 2
VR 3
NOR CH1 OUT
NOR CH1 OUT GND
NOR CH2 OUT
NOR CH2 OUT GND
A - LINE
B - LINE
C - LINE
12 V
9 V
+5 V
TP1
TP2
TP3
TP4
TP6 (GND)
LCD
SVHS
STAND BY
BATTERY
E□□□□□F

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NU
IN THE PARTS LIST, AND


A - LINE
B - LINE
C - LINE
IC 1
µPD7533GB
721
X1
VSX0099
OR CSB500E
PAL Ⓗ
S-VHS Ⓗ
CLOG
FWD Ⓛ
GND
SD CODE 0
SD CODE 1
RST MODE
BATT C ALM Ⓛ
STAND BY Ⓗ
CHD H/DATA Ⓛ
CS Ⓛ
ANALOG SW 1
ANALOG SW 0
ANALOG GND
DEW 1
DEW 2
AN 1
AN 2
V/REF
NC
BACKUP VDD
DECODE 1
DECODE 0
PS 1
PEAK HOLD Ⓗ
DIVSEL
RST
CTL IN
SCK
SO
SI
RESET
RESET
MEMORY
EVQ QSB05G X2
SW2
SW3
IC 5
M5295L
WD
TC
RST 1
GND
ADJ 1
VCC
RST 2
ADJ 2
QR 2
UN2213
(RESET)
SW 4
ESD14184
ON
OFF
LAMP
D2
MA153
Q3
2SB710
(STAND BY Ⓗ:ON)
QR 1
UN2213
(STAND BY Ⓗ:OFF)
D7
LN0410CP3DN
Q4
2SD1328
(AUDIO MUTE)
Q5
2SD1328
(AUDIO MUTE)
Q6
2SD1328
(AUDIO MUTE)
QR 3
UN2213
(INV.)
TP 1
TP 2
TP 3
D6
MA151K
LCD
S VHS
M 8:88:88
STAND BY
BATTERY
E □□□□□ F
CH1
-∞ -30 -10 -5 -2 0 +2 +5
CH2
IC 2
µPD7225GB 3B7
(LCD DRIVE)
VLC 1
VLC 2
VLC 3
VSS
VDD
SCK
SI
CS
BUSY
C/D
RESET
CL 1
CL 2
SYNC
IC 3
BA6138 (LEVEL METER DRIVE)
MUT
OUT
DET
IN
GND
IN
DET
OUT
VCC
CH2 0 ADJ
CH1 0 ADJ
VR2 10KB
VR3 10KB
IC 4
MN4053BS
Q1
2SD639
(9V REG)
D3
MA3100L
(10V)
(AV 9V)
IC 7
NJM4556D
IC 7
NJM4556D
Q2
2SD601
(AMP)
12 V
9 V
+5 V
P6904 (TO 68P CONNECTOR C.B.A.)
1 CH 1 P6803 - 1
2 GND P6803 - 2
3 CH 2 P6803 - 3
4 GND P6803 - 4
5 A. MOUNT P6803 - 5
6 GND P6803 - 6
4
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13
14

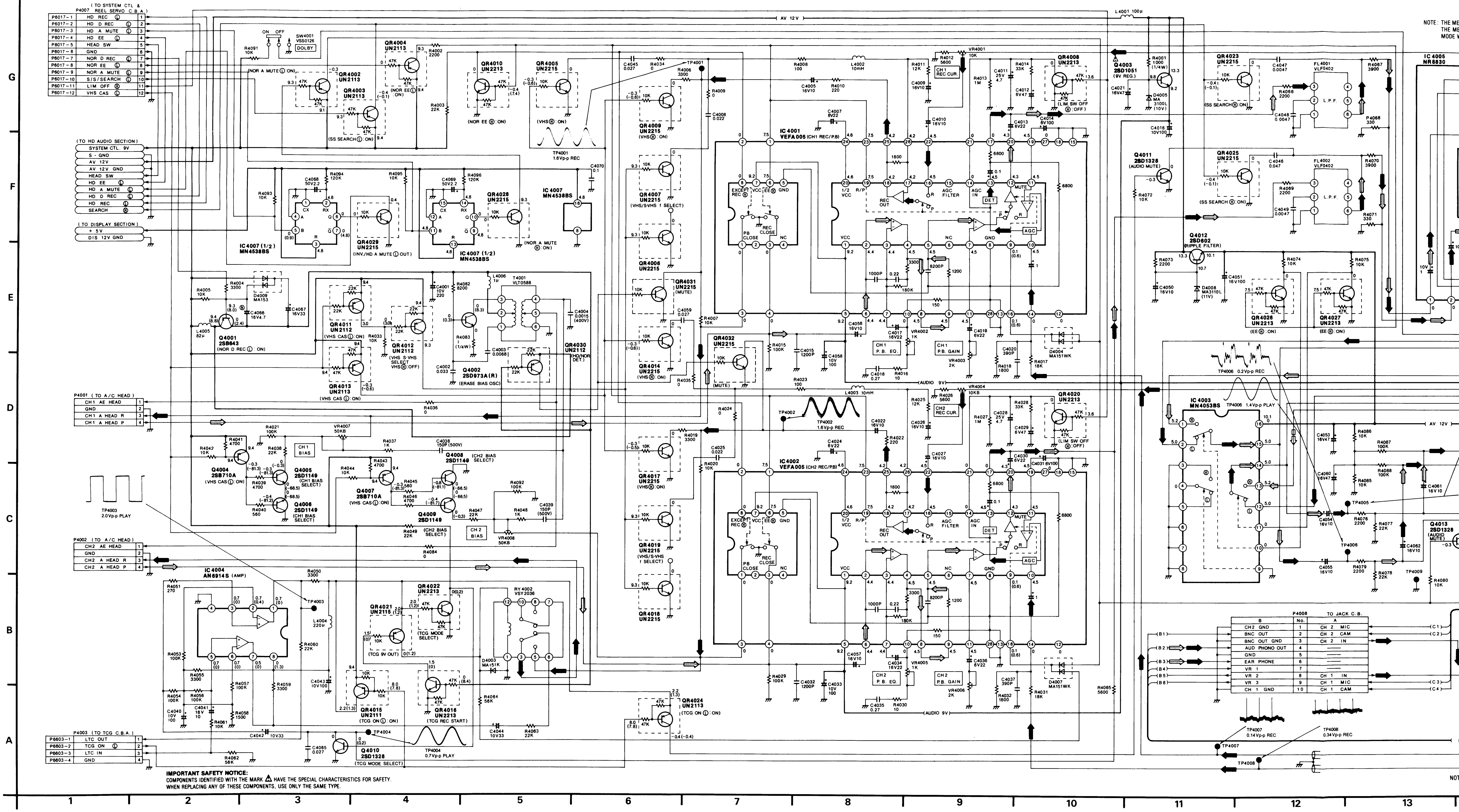
REF. NO. 6900 SERIES

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

NORMAL AUDIO SCHEMATIC DIAGRAM

MAIN SIGNAL PATH IN REC MODE. MAIN SIGNAL PATH IN PLAYBACK MODE.


P4007 (TO SYSTEM CTL & REEL SERVO C.B.A.)
P6017-1 HD REC Ⓛ
P6017-2 HD D REC Ⓛ
P6017-3 HD A MUTE Ⓛ
P6017-4 HD EE Ⓛ
P6017-5 HEAD SW
P6017-6 GND
P6017-7 NOR D REC Ⓛ
P6017-8 NOR EE Ⓛ
P6017-9 NOR A MUTE Ⓛ
P6017-10 S/S SEARCH Ⓛ
P6017-11 LIM OFF Ⓗ
P6017-12 VHS CAS Ⓛ
(TO HD AUDIO SECTION)
SYSTEM CTL. 9V
S-GND
AV 12V
AV 12V GND
HEAD SW
HD EE Ⓛ
HD A MUTE Ⓛ
HD D REC Ⓛ
HD REC Ⓛ
SEARCH Ⓗ
(TO DISPLAY SECTION)
+5V
DIS 12V GND
SW4001 VSS0126 DOLBY
QR4004 UN2113
QR4002 UN2113
QR4003 UN2113 (SS SEARCH Ⓛ:ON)
QR4010 UN2213 (NOR EE Ⓗ:ON)
QR4005 UN2215 (VHS Ⓗ:ON)
TP4001 1.6Vp-p REC
IC4007 (1/2) MN4538BS
QR4029 UN2215 (INV./HD A MUTE Ⓛ OUT)
QR4028 UN2215 (NOR A MUTE Ⓗ:ON)
IC4007 MN4538BS
Q4001 2SB643 (NOR D REC Ⓛ:ON)
D4009 MA153
QR4011 UN2112 (VHS CAS Ⓛ:ON)
QR4012 UN2112 (VHS S-VHS SELECT VHS Ⓗ:OFF)
QR4013 UN2113 (VHS CAS Ⓛ:ON)
T4001 VLT0588
Q4002 2SD973A(R) (ERASE BIAS OSC)
QR4030 UN2112 (HD/NOR DET.)
P4001 (TO A/C HEAD)
CH1 AE HEAD
GND
CH1 A HEAD R
CH1 A HEAD P
Q4004 2SB710A (VHS CAS Ⓛ:ON)
Q4005 2SD1149 (CH1 BIAS SELECT)
Q4006 2SD1149 (CH1 BIAS SELECT)
CH1 BIAS
Q4007 2SB710A (VHS CAS Ⓛ:ON)
Q4008 2SD1149 (CH2 BIAS SELECT)
Q4009 2SD1149 (CH2 BIAS SELECT)
CH2 BIAS
TP4003 2.0Vp-p PLAY
P4002 (TO A/C HEAD)
CH2 AE HEAD
GND
CH2 A HEAD R
CH2 A HEAD P
IC4004 AN6914S (AMP)
QR4021 UN2115 (TCG 9V OUT)
QR4022 UN2213 (TCG MODE SELECT)
QR4015 UN2111 (TCG ON Ⓛ:ON)
QR4016 UN2213 (TCG REC START)
RY4002 VSY2036
P4003 (TO TCG C.B.A.)
P6603-1 LTC OUT
P6603-2 TCG ON Ⓛ
P6603-3 LTC IN
P6603-4 GND
Q4010 2SD1328 (TCG MODE SELECT)
TP4004 0.7Vp-p PLAY
QR4009 UN2215 (VHS Ⓗ:ON)
QR4007 UN2215 (VHS/S-VHS f SELECT)
QR4006 UN2215
QR4031 UN2215 (MUTE)
QR4014 UN2215 (VHS Ⓗ:ON)
QR4032 UN2215 (MUTE)
QR4017 UN2215 (VHS Ⓗ:ON)
QR4019 UN2215 (VHS/S-VHS f SELECT)
QR4018 UN2215
QR4024 UN2113 (TCG ON Ⓛ:ON)
AV 12V
IC4001 VEFA005 (CH1 REC/PB)
IC4002 VEFA005 (CH2 REC/PB)
TP4002 1.6Vp-p REC
CH1 P.B. EQ.
CH1 P.B. GAIN
CH2 P.B. EQ.
CH2 P.B. GAIN
CH1 REC CUR.
CH2 REC CUR.
QR4008 UN2213 (LIM. SW OFF Ⓗ:OFF)
QR4020 UN2213 (LIM. SW OFF Ⓗ:OFF)
D4004 MA151WK
D4007 MA151WK
(AUDIO 9V)
Q4003 2SD1051 (9V REG.)
D4005 MA 3100L (10V)
Q4011 2SD1328 (AUDIO MUTE)
Q4012 2SD602 (RIPPLE FILTER)
D4008 MA3110L (11V)
IC4003 MN4053BS
TP4006 0.2Vp-p REC
TP4006 1.4Vp-p PLAY
QR4023 UN2215 (SS SEARCH Ⓗ:ON)
QR4025 UN2215 (SS SEARCH Ⓗ:ON)
FL4001 VLF0402 L.P.F.
FL4002 VLF0402 L.P.F.
QR4026 UN2213 (EE Ⓗ:ON)
QR4027 UN2213 (EE Ⓗ:ON)
Q4013 2SD1328 (AUDIO MUTE)
IC4005 NR8830
TP4005
TP4009
TP4007 0.14Vp-p REC
TP4008 0.34Vp-p REC
NOTE: THE ME
THE ME
MODE
G
F
E
D
C
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A
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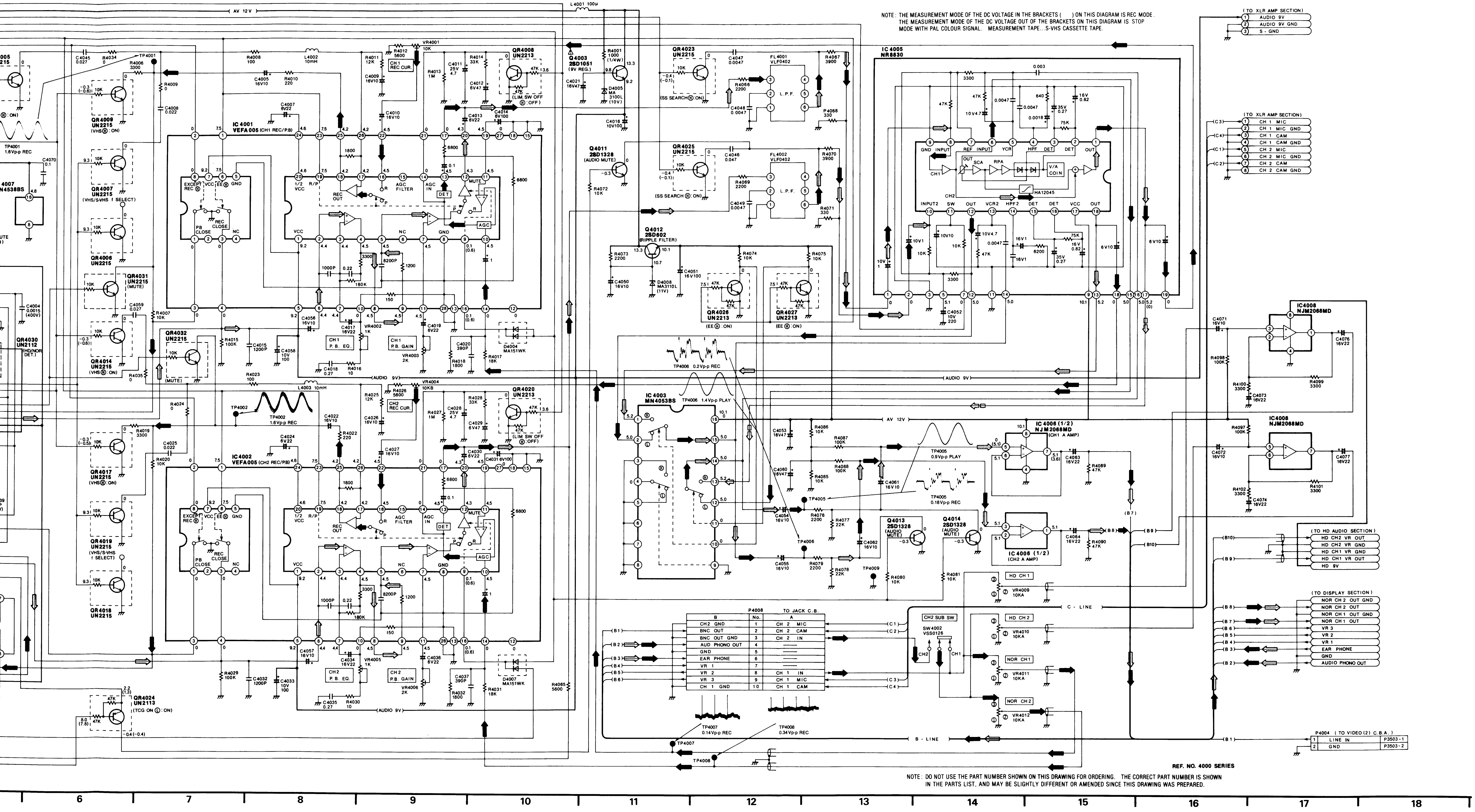
P4008 TO JACK C.B.

B	No.	A
CH2 GND	1	CH 2 MIC
BNC OUT	2	CH 2 CAM
BNC OUT GND	3	CH 2 IN
AUD PHONO OUT	4	——
GND	5	——
EAR PHONE	6	——
VR 1	7	——
VR 2	8	CH 1 IN
VR 3	9	CH 1 MIC
CH 1 GND	10	CH 1 CAM

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SAME TYPE.

⟸ MAIN SIGNAL PATH IN PLAYBACK MODE.

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

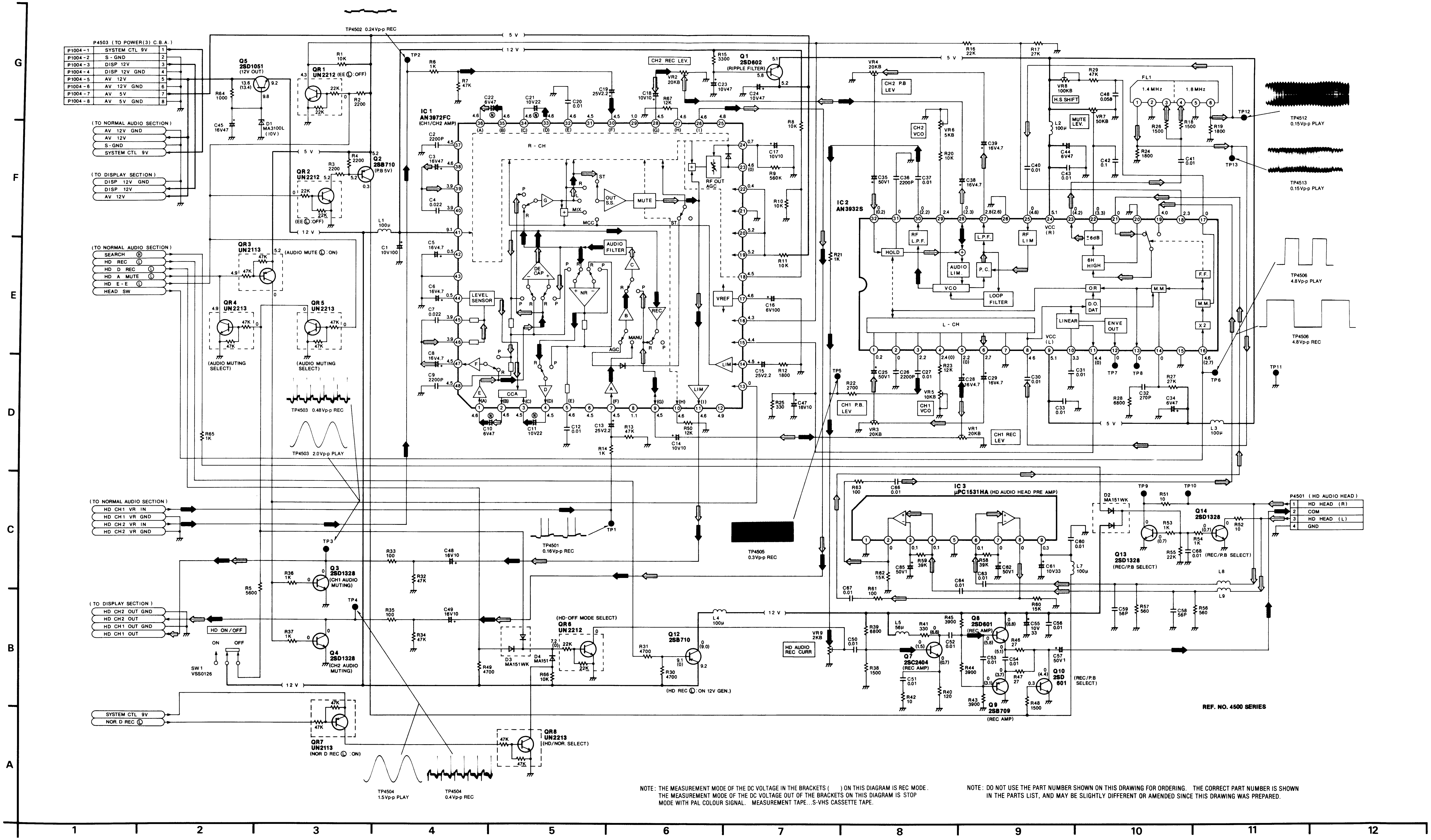

AV 12V
L4001 100µ
IC4001 VEFA005 (CH1 REC/PB)
IC4002 VEFA005 (CH2 REC/PB)
IC4003 MN4053BS
IC4005 NR8830
IC4006 (1/2) NJM2068MD (CH1 A AMP)
IC4006 (1/2) (CH2 A AMP)
IC4008 NJM2068MD
Q4003 2SD1051 (9V REG.)
Q4011 2SD1328 (AUDIO MUTE)
Q4012 2SD602 (RIPPLE FILTER)
Q4013 2SD1328 (AUDIO MUTE)
Q4014 2SD1328 (AUDIO MUTE)
QR4006 UN2215
QR4007 UN2215 (VHS/S-VHS f SELECT)
QR4008 UN2213 (LIM. SW OFF Ⓗ:OFF)
QR4009 UN2215 (VHS Ⓗ:ON)
QR4014 UN2215 (VHS Ⓗ:ON)
QR4017 UN2215 (VHS Ⓗ:ON)
QR4018 UN2215
QR4019 UN2215 (VHS/S-VHS f SELECT)
QR4020 UN2213 (LIM SW OFF Ⓗ:OFF)
QR4023 UN2215 (SS SEARCH Ⓗ:ON)
QR4024 UN2113 (TCG ON Ⓛ:ON)
QR4025 UN2215 (SS SEARCH Ⓗ:ON)
QR4026 UN2213 (EE Ⓗ:ON)
QR4027 UN2213 (EE Ⓗ:ON)
QR4030 UN2112 (HD/NOR DET.)
QR4031 UN2215 (MUTE)
QR4032 UN2215 (MUTE)
FL4001 VLF0402 L.P.F.
FL4002 VLF0402 L.P.F.
TP4001 1.6Vp-p REC
TP4002 1.6Vp-p REC
TP4005 0.9Vp-p PLAY
TP4005 0.18Vp-p REC
TP4006 0.2Vp-p REC
TP4006 1.4Vp-p PLAY
TP4007 0.14Vp-p REC
TP4008 0.34Vp-p REC
CH1 REC CUR
CH2 REC CUR
CH1 P.B. EQ
CH2 P.B. EQ
CH1 P.B. GAIN
CH2 P.B. GAIN
AUDIO 9V
C - LINE
B - LINE
(TO XLR AMP SECTION)
AUDIO 9V
AUDIO 9V GND
S - GND
(TO XLR AMP SECTION)
CH 1 MIC
CH 1 MIC GND
CH 1 CAM
CH 1 CAM GND
CH 2 MIC
CH 2 MIC GND
CH 2 CAM
CH 2 CAM GND
(TO HD AUDIO SECTION)
HD CH2 VR OUT
HD CH2 VR GND
HD CH1 VR GND
HD CH1 VR OUT
HD 9V
(TO DISPLAY SECTION)
NOR CH 2 OUT GND
NOR CH 2 OUT
NOR CH 1 OUT GND
NOR CH 1 OUT
VR 3
VR 2
VR 1
EAR PHONE
GND
AUDIO PHONO OUT
P4008 TO JACK C.B.
B | No. | A
CH 2 GND | 1 | CH 2 MIC
BNC OUT | 2 | CH 2 CAM
BNC OUT GND | 3 | CH 2 IN
AUD PHONO OUT | 4 | —
GND | 5 | —
EAR PHONE | 6 | —
VR 1 | 7 | —
VR 2 | 8 | CH 1 IN
VR 3 | 9 | CH 1 MIC
CH 1 GND | 10 | CH 1 CAM
CH2 SUB SW
SW4002 VSS0126
HD CH1 VR4009 10KA
HD CH2 VR4010 10KA
NOR CH1 VR4011 10KA
NOR CH2 VR4012 10KA
P4004 (TO VIDEO (2) C.B.A.)
1 | LINE IN | P3503-1
2 | GND | P3503-2
6
7
8
9
10
11
12
13
14
15
16
17
18

REF. NO. 4000 SERIES

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

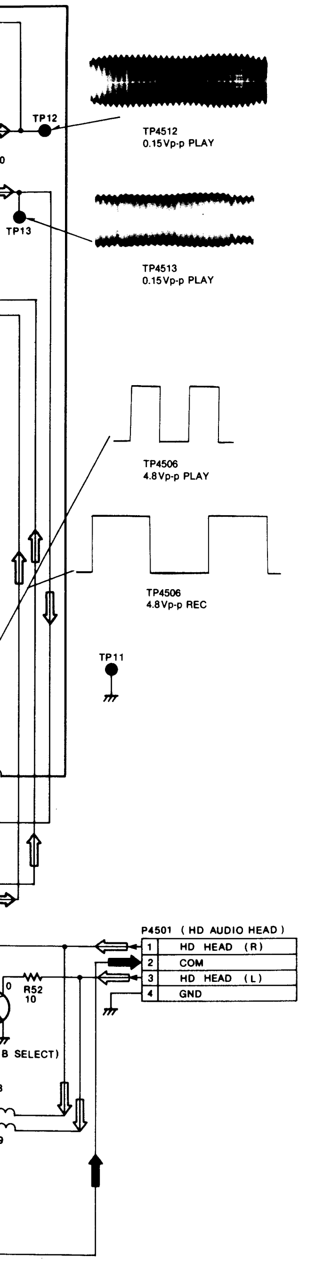
Hi-Fi AUDIO SCHEMATIC DIAGRAM

⇦ MAIN SIGNAL PATH IN PLAYBACK MODE ⬅ MAIN SIGNAL PATH IN REC MODE


P4503 (TO POWER(3) C.B.A.)
P1004-1 SYSTEM CTL 9V 1
P1004-2 S-GND 2
P1004-3 DISP 12V 3
P1004-4 DISP 12V GND 4
P1004-5 AV 12V 5
P1004-6 AV 12V GND 6
P1004-7 AV 5V 7
P1004-8 AV 5V GND 8
(TO NORMAL AUDIO SECTION)
AV 12V GND
AV 12V
S-GND
SYSTEM CTL 9V
(TO DISPLAY SECTION)
DISP 12V GND
DISP 12V
AV 12V
(TO NORMAL AUDIO SECTION)
SEARCH Ⓗ
HD REC Ⓛ
HD D REC Ⓛ
HD A MUTE Ⓛ
HD E-E Ⓛ
HEAD SW
(TO NORMAL AUDIO SECTION)
HD CH1 VR IN
HD CH1 VR GND
HD CH2 VR IN
HD CH2 VR GND
(TO DISPLAY SECTION)
HD CH2 OUT GND
HD CH2 OUT
HD CH1 OUT GND
HD CH1 OUT
SYSTEM CTL 9V
NOR.D REC Ⓛ
Q5 2SD1051 (12V OUT)
QR1 UN2212 (EE Ⓛ:OFF)
QR2 UN2212
Q2 2SB710 (PB 5V)
QR3 UN2113 (AUDIO MUTE Ⓛ:ON)
QR4 UN2213 (AUDIO MUTING SELECT)
QR5 UN2213 (AUDIO MUTING SELECT)
Q3 2SD1328 (CH1 AUDIO MUTING)
Q4 2SD1328 (CH2 AUDIO MUTING)
QR6 UN2212 (HD-OFF MODE SELECT)
QR7 UN2113 (NOR D REC Ⓛ:ON)
QR8 UN2213 (HD/NOR. SELECT)
Q12 2SB710 (HD REC Ⓛ:ON 12V GEN.)
Q1 2SD602 (RIPPLE FILTER)
IC1 AN3972FC (CH1/CH2 AMP)
IC2 AN3932S
IC3 μPC1531HA (HD AUDIO HEAD PRE AMP)
Q7 2SC2404 (REC AMP)
Q8 2SD601 (REC AMP)
Q9 2SB709 (REC AMP)
Q10 2SD601 (REC/P.B SELECT)
Q13 2SD1328 (REC/P.B SELECT)
Q14 2SD1328 (REC/P.B SELECT)
D1 MA3100L (10V)
D2 MA151WK
D3 MA151WK
D4 MA151
SW1 VSS0126
HD ON/OFF
ON OFF
CH2 REC LEV.
CH2 P.B LEV
CH1 P.B. LEV
CH1 REC LEV
HD AUDIO REC CURR
H.S SHIFT
MUTE LEV.
R-CH
L-CH
LEVEL SENSOR
AUDIO FILTER
DE CAP
NR
OUT S.S.
MUTE
MIX
CCA
AGC
MANU
REC
LIM
VREF
RF OUT AGC
HOLD
RF L.P.F.
AUDIO LIM.
VCO
P.C.
L.P.F.
RF LIM
LOOP FILTER
±6dB
6H HIGH
OR
D.O. DAT
LINEAR
ENVE OUT
F.F.
M.M.
X2
FL1 1.4MHz 1.8MHz
P4501 (HD AUDIO HEAD)
1 HD HEAD (R)
2 COM
3 HD HEAD (L)
4 GND
TP4502 0.24Vp-p REC
TP4503 0.48Vp-p REC
TP4503 2.0Vp-p PLAY
TP4501 0.16Vp-p REC
TP4505 0.3Vp-p REC
TP4504 1.5Vp-p PLAY
TP4504 0.4Vp-p REC
TP4512 0.15Vp-p PLAY
TP4513 0.15Vp-p PLAY
TP4506 4.8Vp-p PLAY
TP4506 4.8Vp-p REC
TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13
5V
12V
REF. NO. 4500 SERIES
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

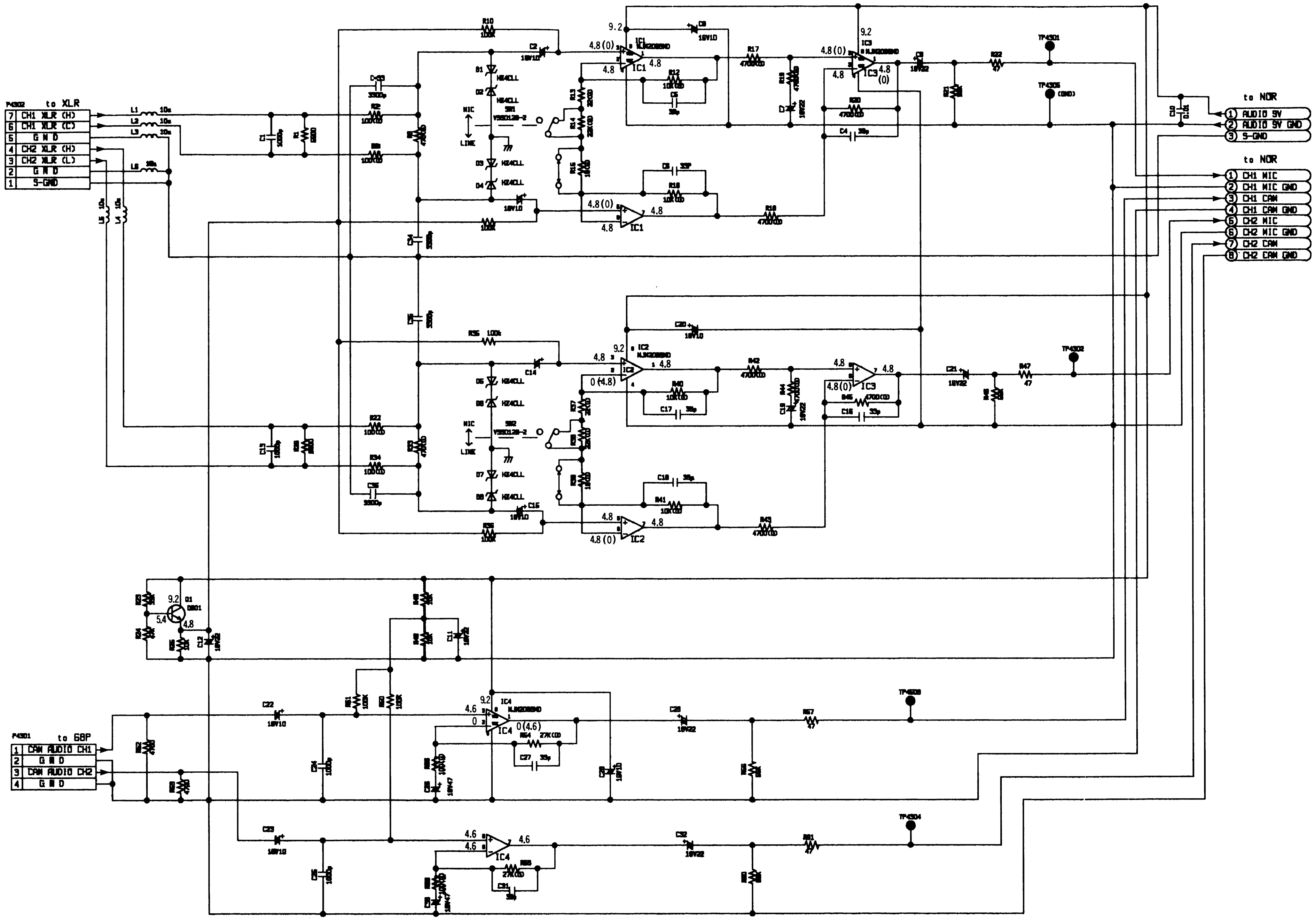
NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.


TP12
TP4512
0.15Vp-p PLAY
TP13
TP4513
0.15Vp-p PLAY
TP4506
4.8Vp-p PLAY
TP4506
4.8Vp-p REC
TP11
P4501 (HD AUDIO HEAD)
1 HD HEAD (R)
2 COM
3 HD HEAD (L)
4 GND
R52
10
B SELECT)

O. 4500 SERIES

CT PART NUMBER IS SHOWN
WING WAS PREPARED.

XLR AMP SCHEMATIC DIAGRAM


P4302 to XLR
7 CH1 XLR (H)
6 CH1 XLR (C)
5 GND
4 CH2 XLR (H)
3 CH2 XLR (L)
2 GND
1 S-GND
L1 10u
L2 10u
L3 10u
L5 10u
L6 10u
L4 10u
R10 100K
C2 16V10
D1 HZ4CLL
D2 HZ4CLL
SW1
MIC
LINE
D3 HZ4CLL
D4 HZ4CLL
R13
R14
R16
9.2
4.8(0)
4.8
IC1
C8 16V10
R12 10K
C6 33p
R17 4700
R18
R19
R20
C4 33p
9.2
IC3
4.8(0)
4.8
(0)
C9 16V22
R22 47
TP4301
TP4305 (GND)
R21
to NOR
1 AUDIO 5V
2 AUDIO 5V GND
3 S-GND
to NOR
1 CH1 MIC
2 CH1 MIC GND
3 CH1 CAM
4 CH1 CAM GND
5 CH2 MIC
6 CH2 MIC GND
7 CH2 CAM
8 CH2 CAM GND
C6 33P
R18 10K
4.8(0)
4.8
C4
C5
R36 100k
C20 16V10
9.2
IC2
4.8
0 (4.8)
R42 4700
R40 10K
C17 33p
4.8
4.8(0)
IC3
R45 4700
C18 33p
C21 16V22
R47 47
TP4302
D5 HZ4CLL
D6 HZ4CLL
SW2
MIC
LINE
D7 HZ4CLL
D8 HZ4CLL
C14
C15
C19 33p
R41 10K
4.8
4.8(0)
IC2
R43 4700
9.2
Q1
5.4
4.8
C22 16V10
P4301 to 68P
1 CAM AUDIO CH1
2 GND
3 CAM AUDIO CH2
4 GND
9.2
IC4
4.6
0
0(4.6)
R64 27K
C27 33p
C28 16V22
R67 47
TP4303
C23 16V10
4.6
4.6
4.6
IC4
R65 27K
C31 33p
C32 16V22
R61 47
TP4304

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS REC MODE.
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
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REF. NO. 4300 SERIES

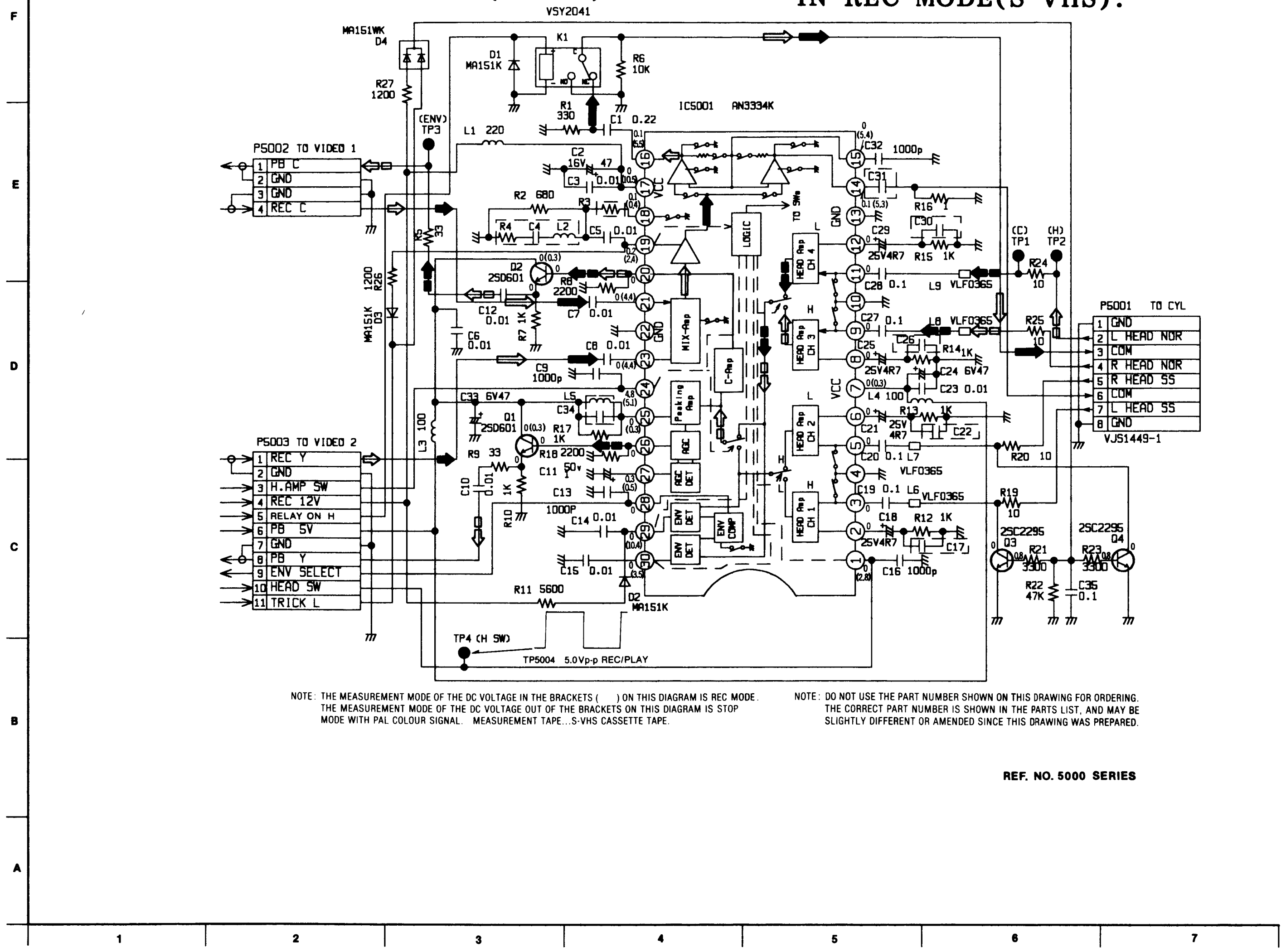
HEAD AMP SCHEMATIC DIAGRAM

⇦□ MAIN SIGNAL PATH IN PLAYBACK MODE(VHS).

⬅■ MAIN SIGNAL PATH IN PLAYBACK MODE(S-VHS).

⇦ MAIN SIGNAL PATH IN REC MODE(VHS).

⬅ MAIN SIGNAL PATH IN REC MODE(S-VHS).


VSY2041
IC5001 AN3334K
P5002 TO VIDEO 1
PB C
GND
GND
REC C
P5003 TO VIDEO 2
REC Y
GND
H.AMP SW
REC 12V
RELAY ON H
PB SV
GND
PB Y
ENV SELECT
HEAD SW
TRICK L
P5001 TO CYL
GND
L HEAD NOR
COM
R HEAD NOR
R HEAD SS
COM
L HEAD SS
GND
VJS1449-1
K1
D1 MA151K
D4 MA151WK
D2 MA151K
D3 MA151K
Q1 2SD601
Q2 2SD601
Q3 2SC2295
Q4 2SC2295
LOGIC
MIX-Amp
C-Amp
Peaking Amp
AGC
AGC DET
ENV DET
ENV COMP
HEAD Amp CH 1
HEAD Amp CH 2
HEAD Amp CH 3
HEAD Amp CH 4
VCC
GND
TP1 (C)
TP2 (H)
TP3 (ENV)
TP4 (H SW)
TP5004 5.0Vp-p REC/PLAY
1
2
3
4
5
6
7
A
B
C
D
E
F

NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS (   ) ON THIS DIAGRAM IS REC MODE. THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS STOP MODE WITH PAL COLOUR SIGNAL. MEASUREMENT TAPE...S-VHS CASSETTE TAPE.

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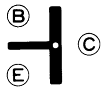
REF. NO. 5000 SERIES

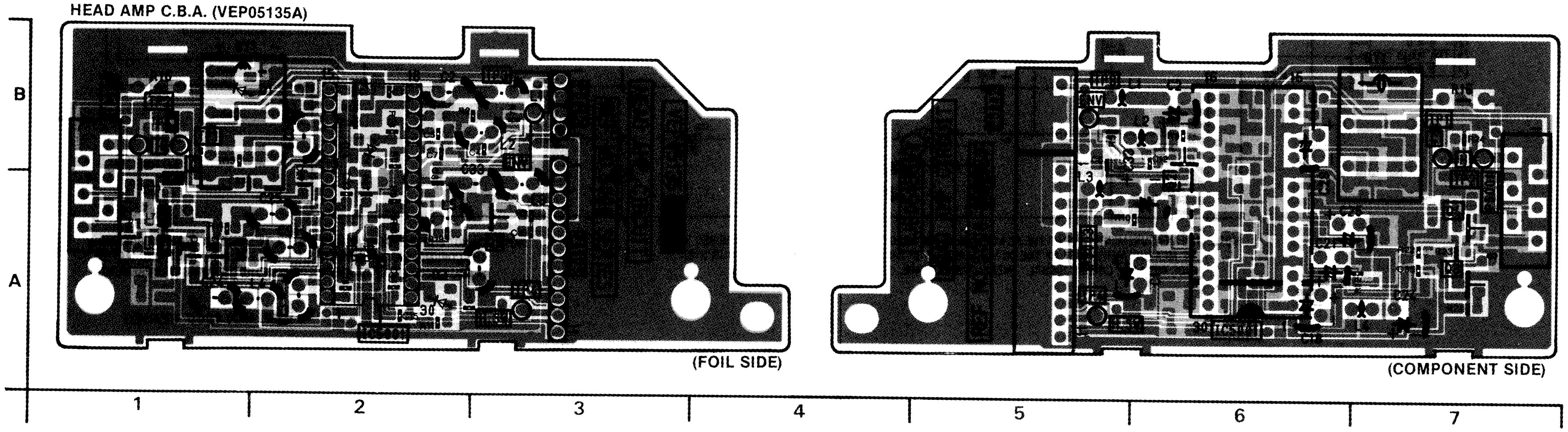
HEAD AMP C.B.A.		
Transistors		
Q5001	A-3	Ⓕ
Q5002	B-6	©
Q5003	A-7	©
Q5004	A-7	©
Integrated Circuits		
IC5001	A-1	Ⓕ
IC5001	A-6	©
Test Points		
TP5001	B-1	Ⓕ
TP5001	B-7	©
TP5002	B-1	Ⓕ
TP5002	B-7	©
TP5003	B-3	Ⓕ
TP5003	B-5	©
TP5004	A-3	Ⓕ
TP5004	A-5	©
Connectors		
P5001	B-1	Ⓕ
P5001	A-7	©
P5002	B-3	Ⓕ
P5002	B-5	©
P5003	A-3	Ⓕ
P5003	A-5	©

ADDRESS INFORMATION
©... COMPONENT SIDE
Ⓕ... FOIL SIDE

TRANSISTOR INFORMATION



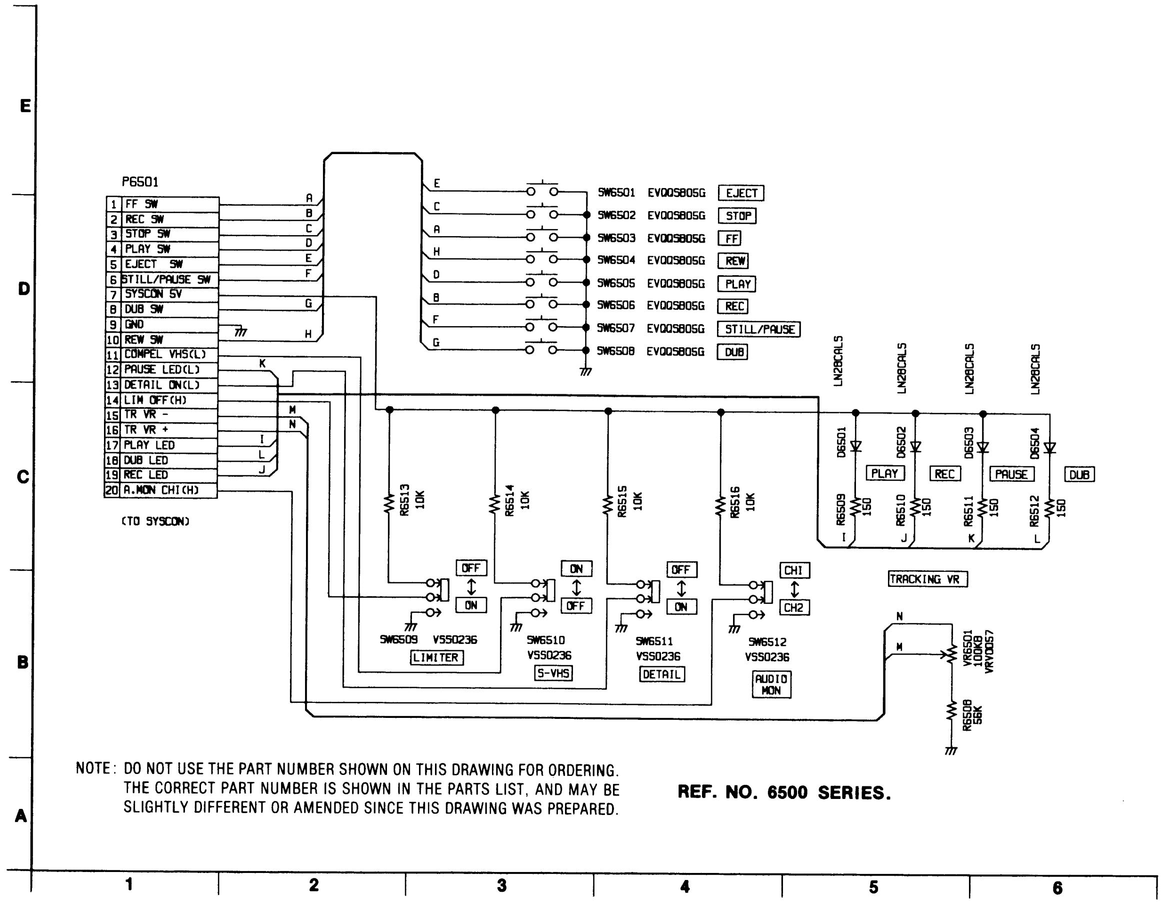
HEAD AMP C.B.A. (VEP05135A)


HEAD AMP C.B.A. (VEP05135A)
B
A
1
2
3
4
5
6
7

(FOIL SIDE)

(COMPONENT SIDE)

OPERATION SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
5
6
P6501
1 FF SW
2 REC SW
3 STOP SW
4 PLAY SW
5 EJECT SW
6 STILL/PAUSE SW
7 SYSCON 5V
8 DUB SW
9 GND
10 REW SW
11 COMPEL VHS(L)
12 PAUSE LED(L)
13 DETAIL ON(L)
14 LIM OFF(H)
15 TR VR -
16 TR VR +
17 PLAY LED
18 DUB LED
19 REC LED
20 A.MON CH1(H)
(TO SYSCON)
SW6501 EVQQS805G EJECT
SW6502 EVQQS805G STOP
SW6503 EVQQS805G FF
SW6504 EVQQS805G REW
SW6505 EVQQS805G PLAY
SW6506 EVQQS805G REC
SW6507 EVQQS805G STILL/PAUSE
SW6508 EVQQS805G DUB
LN28CAL5
D6501
D6502
D6503
D6504
PLAY
REC
PAUSE
DUB
R6509 150
R6510 150
R6511 150
R6512 150
R6513 10K
R6514 10K
R6515 10K
R6516 10K
OFF
ON
CH1
CH2
SW6509 VSS0236
LIMITER
SW6510 VSS0236
S-VHS
SW6511 VSS0236
DETAIL
SW6512 VSS0236
AUDIO MON
TRACKING VR
VR6501 100KB VRV0057
R6508 56K

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING. THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

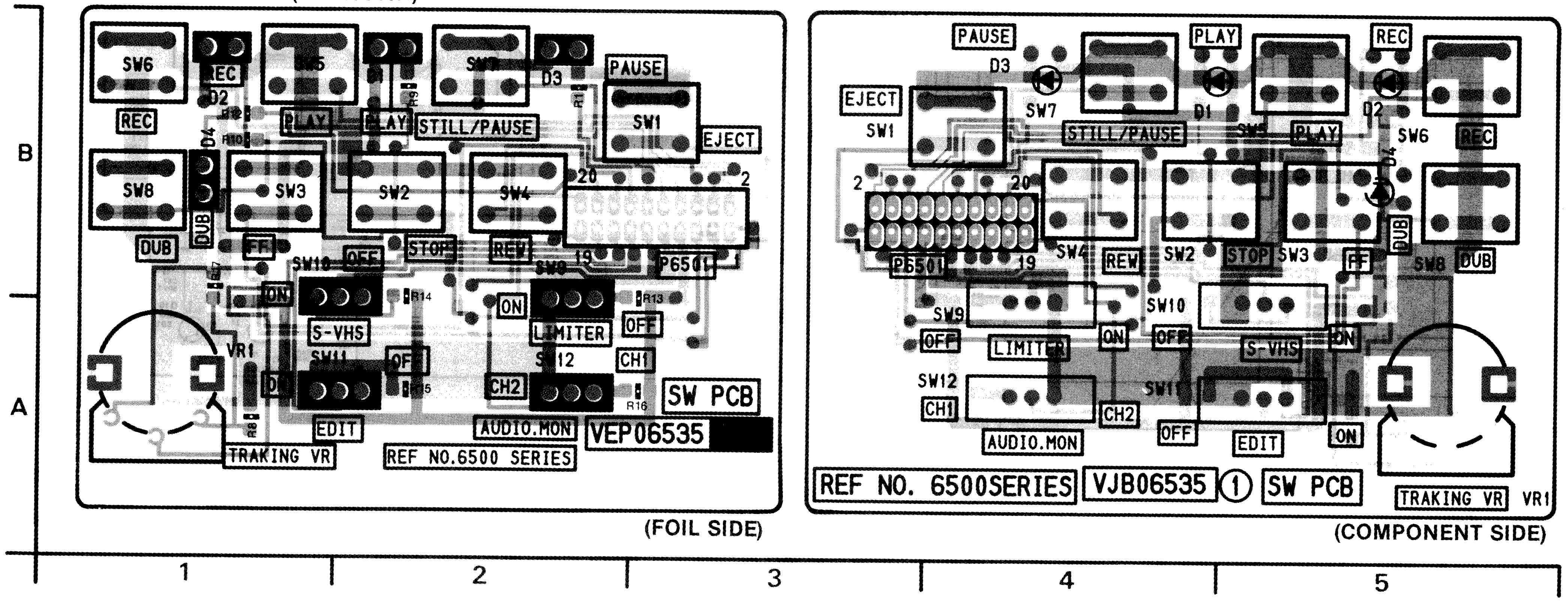
REF. NO. 6500 SERIES.

OPERATION C.B.A.	
Adjustments	
VR6501	A-1 Ⓕ
VR6501	A-5 Ⓒ
Connectors	
P6501	B-3 Ⓕ
P6501	B-3 Ⓒ

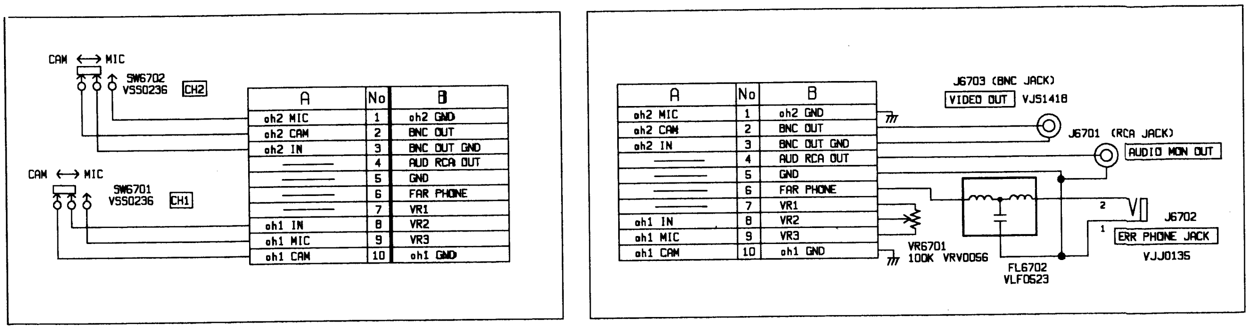
ADDRESS INFORMATION
Ⓒ... COMPONENT SIDE
Ⓕ... FOIL SIDE

OPERATION C.B.A. (VEP06535A)

OPERATION C.B.A. (VEP06535A)


B
A
1
2
3
4
5
SW6
REC
D2
SW5
PLAY
STILL/PAUSE
D3
PAUSE
SW1
EJECT
SW8
D4
DUB
SW3
SW2
SW4
20
2
19
P6501
FF
STOP
REW
SW10
OFF
ON
S-VHS
R14
R13
LIMITER
SW9
SW11
SW12
CH1
CH2
VR1
EDIT
AUDIO.MON
R16
SW PCB
VEP06535
TRAKING VR
REF NO.6500 SERIES
(FOIL SIDE)
SW7
D1
VJB06535 ①
REF NO. 6500SERIES
(COMPONENT SIDE)

JACK UNIT SCHEMATIC DIAGRAM


C
B
A
1
2
3
4
5
6
7
CAM ⟷ MIC
SW6702
VSS0236
CH2
CAM ⟷ MIC
SW6701
VSS0236
CH1
J6703 (BNC JACK)
VIDEO OUT
VJS1418
J6701 (RCA JACK)
AUDIO MON OUT
VR6701
100K VRV0056
FL6702
VLF0523
2
1
J6702
ERR PHONE JACK
VJJ0135

A	No	B
oh2 MIC	1	oh2 GND
oh2 CAM	2	BNC OUT
oh2 IN	3	BNC OUT GND
———	4	AUD RCA OUT
———	5	GND
———	6	FAR PHONE
———	7	VR1
oh1 IN	8	VR2
oh1 MIC	9	VR3
oh1 CAM	10	oh1 GND

A	No	B
oh2 MIC	1	oh2 GND
oh2 CAM	2	BNC OUT
oh2 IN	3	BNC OUT GND
———	4	AUD RCA OUT
———	5	GND
———	6	FAR PHONE
———	7	VR1
oh1 IN	8	VR2
oh1 MIC	9	VR3
oh1 CAM	10	oh1 GND

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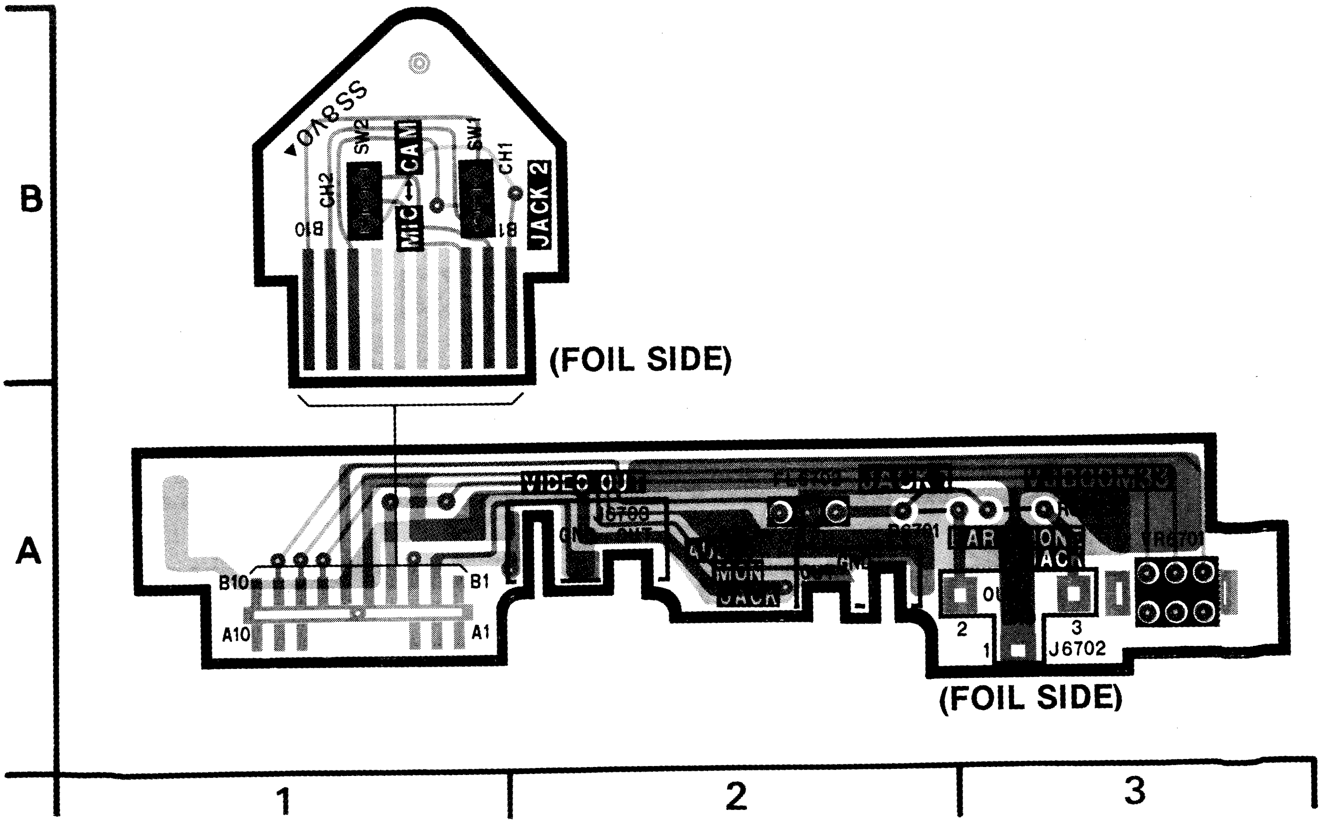
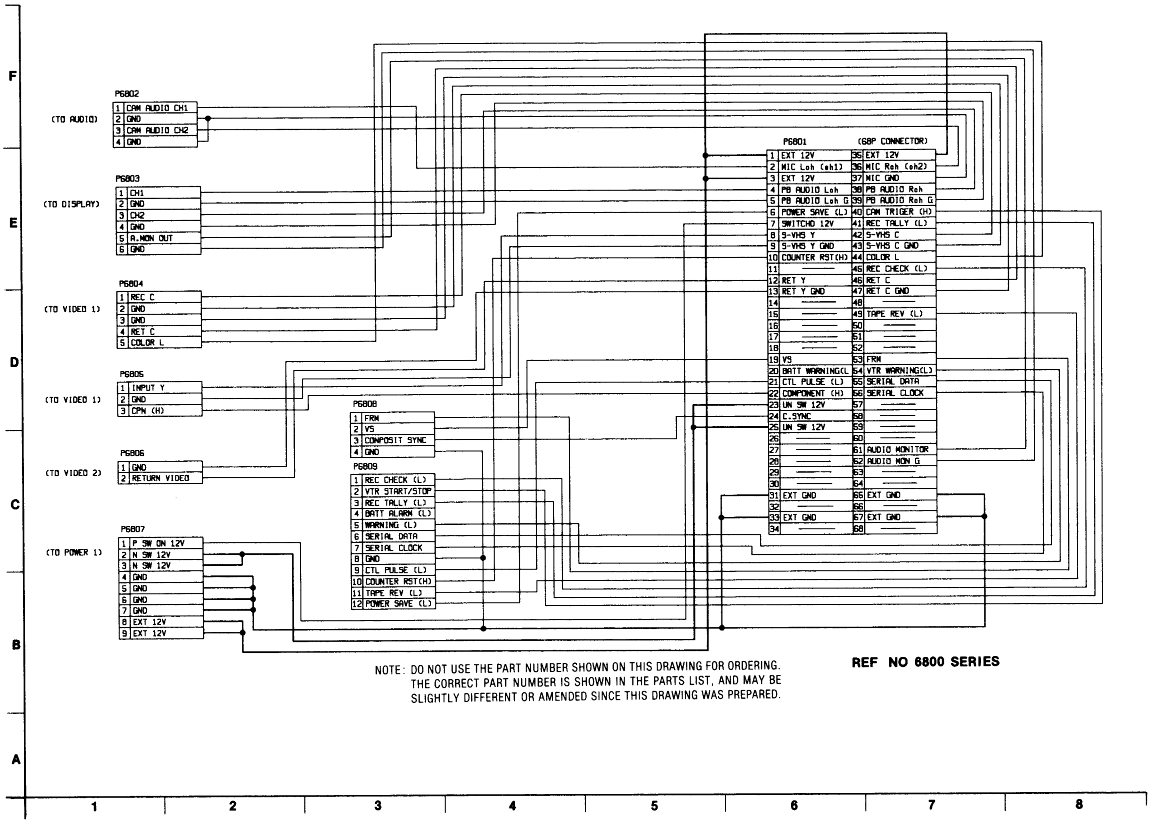
REF. NO. 6700 SERIES.

JACK UNIT (VEJ0834: AG-7450-E/B/EP, VEJ0870: AG-7450-EG)


B
A
1
2
3
SW2
SW1
CH2
CH1
MIC↔CAM
JACK 2
B10
B1
(FOIL SIDE)
VIDEO OUT
J6703
B10
B1
A10
A1
2
1
3
J6702
(FOIL SIDE)

68P CONNECTOR SCHEMATIC DIAGRAM

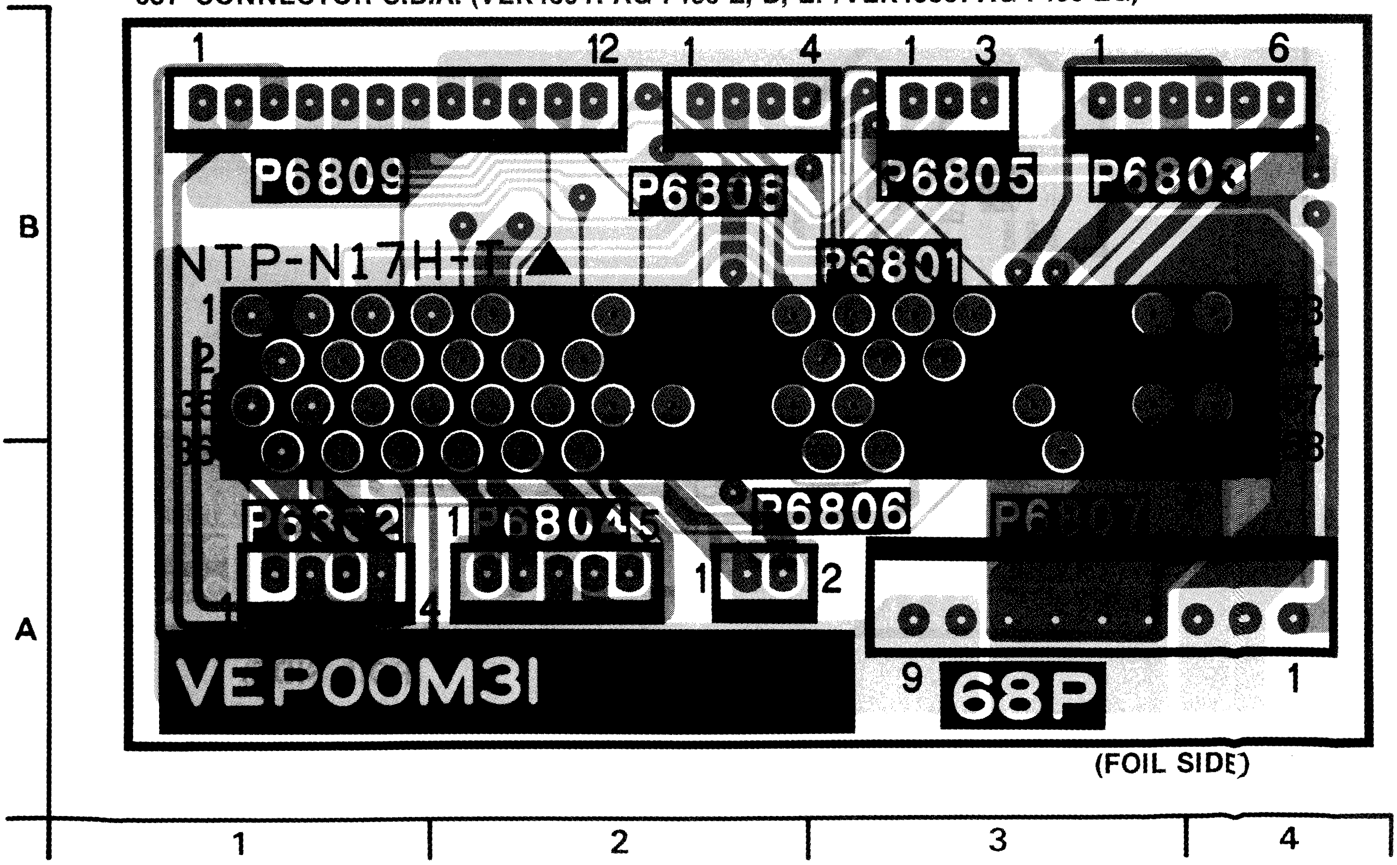

F
E
D
C
B
A
1
2
3
4
5
6
7
8
P6802
(TO AUDIO)
1 CAM AUDIO CH1
2 GND
3 CAM AUDIO CH2
4 GND
P6803
(TO DISPLAY)
1 CH1
2 GND
3 CH2
4 GND
5 A.MON OUT
6 GND
P6804
(TO VIDEO 1)
1 REC C
2 GND
3 GND
4 RET C
5 COLOR L
P6805
(TO VIDEO 1)
1 INPUT Y
2 GND
3 CPN (H)
P6806
(TO VIDEO 2)
1 GND
2 RETURN VIDEO
P6807
(TO POWER 1)
1 P SW ON 12V
2 N SW 12V
3 N SW 12V
4 GND
5 GND
6 GND
7 GND
8 EXT 12V
9 EXT 12V
P6808
1 FRM
2 VS
3 CONPOSIT SYNC
4 GND
P6809
1 REC CHECK (L)
2 VTR START/STOP
3 REC TALLY (L)
4 BATT ALARM (L)
5 WARNING (L)
6 SERIAL DATA
7 SERIAL CLOCK
8 GND
9 CTL PULSE (L)
10 COUNTER RST(H)
11 TAPE REV (L)
12 POWER SAVE (L)
P6801
(68P CONNECTOR)
1 EXT 12V
2 MIC Lch (ch1)
3 EXT 12V
4 PB AUDIO Lch
5 PB AUDIO Lch G
6 POWER SAVE (L)
7 SWITCHD 12V
8 S-VHS Y
9 S-VHS Y GND
10 COUNTER RST(H)
11 ———
12 RET Y
13 RET Y GND
14 ———
15 ———
16 ———
17 ———
18 ———
19 VS
20 BATT WARNING(L
21 CTL PULSE (L)
22 COMPONENT (H)
23 UN SW 12V
24 C.SYNC
25 UN SW 12V
26 ———
27 ———
28 ———
29 ———
30 ———
31 EXT GND
32 ———
33 EXT GND
34 ———
35 EXT 12V
36 MIC Rch (ch2)
37 MIC GND
38 PB AUDIO Rch
39 PB AUDIO Rch G
40 CAM TRIGER (H)
41 REC TALLY (L)
42 S-VHS C
43 S-VHS C GND
44 COLOR L
45 REC CHECK (L)
46 RET C
47 RET C GND
48 ———
49 TAPE REV (L)
50 ———
51 ———
52 ———
53 FRM
54 VTR WARNING(L)
55 SERIAL DATA
56 SERIAL CLOCK
57 ———
58 ———
59 ———
60 ———
61 AUDIO MONITOR
62 AUDIO MON G
63 ———
64 ———
65 EXT GND
66 ———
67 EXT GND
68 ———

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.
THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST, AND MAY BE
SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

REF NO 6800 SERIES

68P CONNECTOR C.B.A. (VEK4304)

68P CONNECTOR C.B.A. (VEK4304: AG-7450-E, B, EP/VEK4586: AG-7450-EG)


B
A
1
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4
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12
P6809
1
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P6808
1
3
P6805
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6
P6803
NTP-N17H-T
P6801
1
2
35
36
33
34
67
68
P6802
4
1
P6804
5
4
1
P6806
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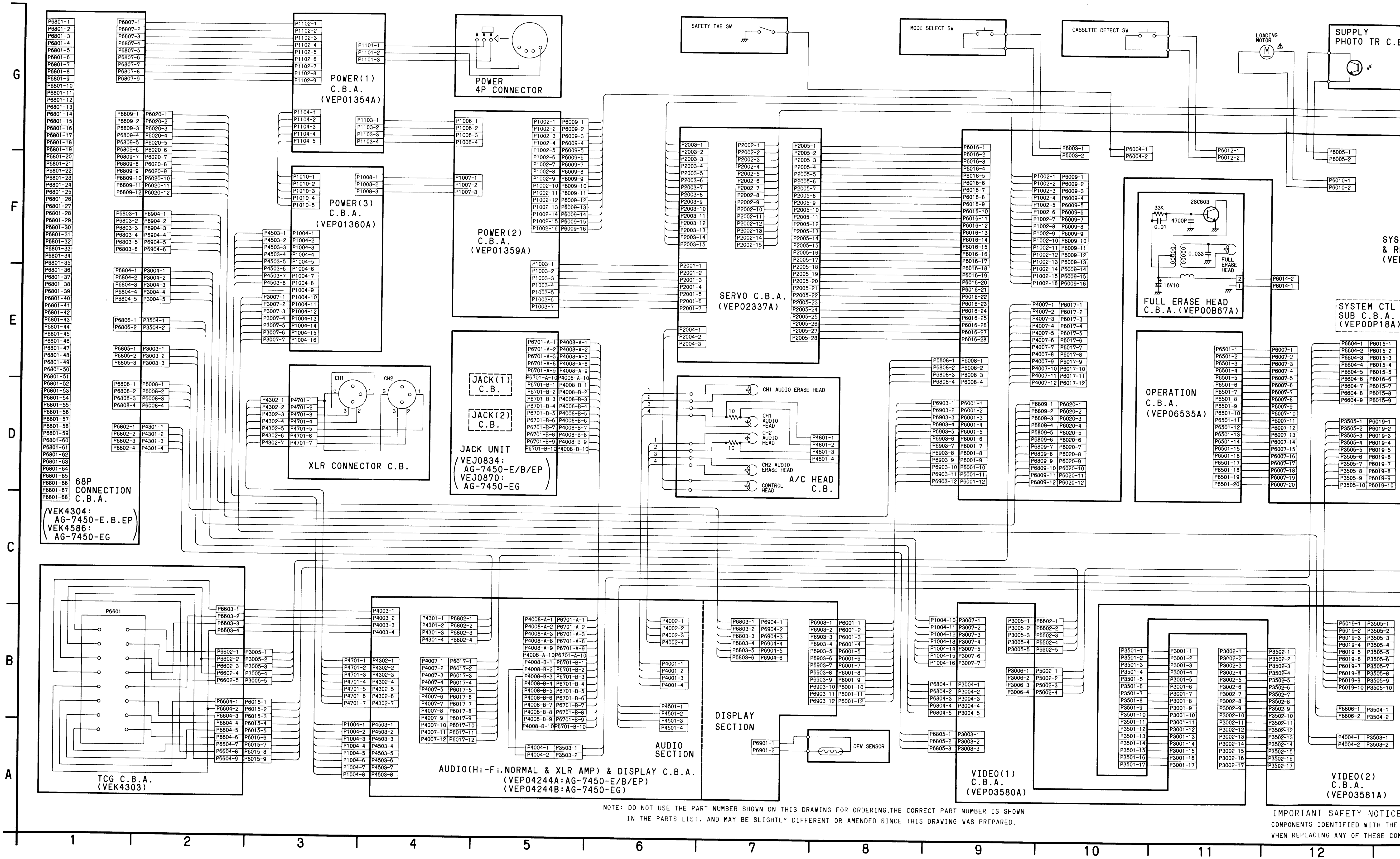
P6807
9
68P
1
VEP00M31

(FOIL SIDE)

INTERCONNECTION SCHEMATIC DIAGRAM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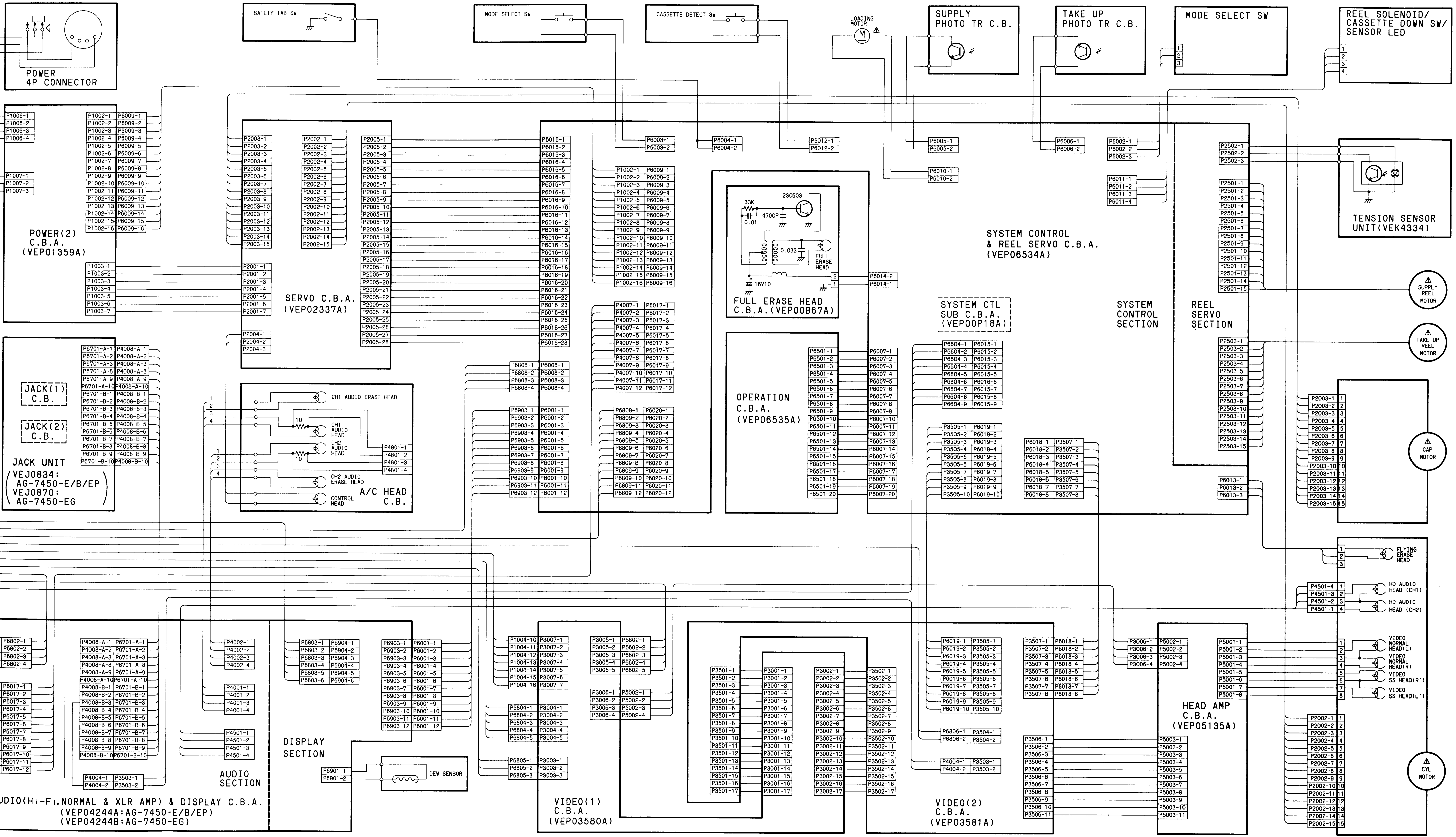
12
68P CONNECTION C.B.A.
(VEK4304: AG-7450-E.B.EP
VEK4586: AG-7450-EG)
POWER(1) C.B.A. (VEP01354A)
POWER 4P CONNECTOR
POWER(3) C.B.A. (VEP01360A)
POWER(2) C.B.A. (VEP01359A)
XLR CONNECTOR C.B.
CH1
CH2
JACK(1) C.B.
JACK(2) C.B.
JACK UNIT (VEJ0834: AG-7450-E/B/EP
VEJ0870: AG-7450-EG)
SAFETY TAB SW
MODE SELECT SW
CASSETTE DETECT SW
LOADING MOTOR
SUPPLY PHOTO TR C.B
SERVO C.B.A. (VEP02337A)
CH1 AUDIO ERASE HEAD
CH1 AUDIO HEAD
CH2 AUDIO HEAD
CH2 AUDIO ERASE HEAD
CONTROL HEAD
A/C HEAD C.B.
33K
2SC603
4700P
0.01
0.033
16V10
FULL ERASE HEAD
FULL ERASE HEAD C.B.A.(VEP00B67A)
SYSTEM CTL SUB C.B.A. (VEP00P18A)
SYS & R (VE
OPERATION C.B.A. (VEP06535A)
P6601
TCG C.B.A. (VEK4303)
AUDIO(Hi-Fi.NORMAL & XLR AMP) & DISPLAY C.B.A. (VEP04244A:AG-7450-E/B/EP) (VEP04244B:AG-7450-EG)
AUDIO SECTION
DISPLAY SECTION
DEW SENSOR
VIDEO(1) C.B.A. (VEP03580A)
VIDEO(2) C.B.A. (VEP03581A)

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE
COMPONENTS IDENTIFIED WITH THE
WHEN REPLACING ANY OF THESE COM

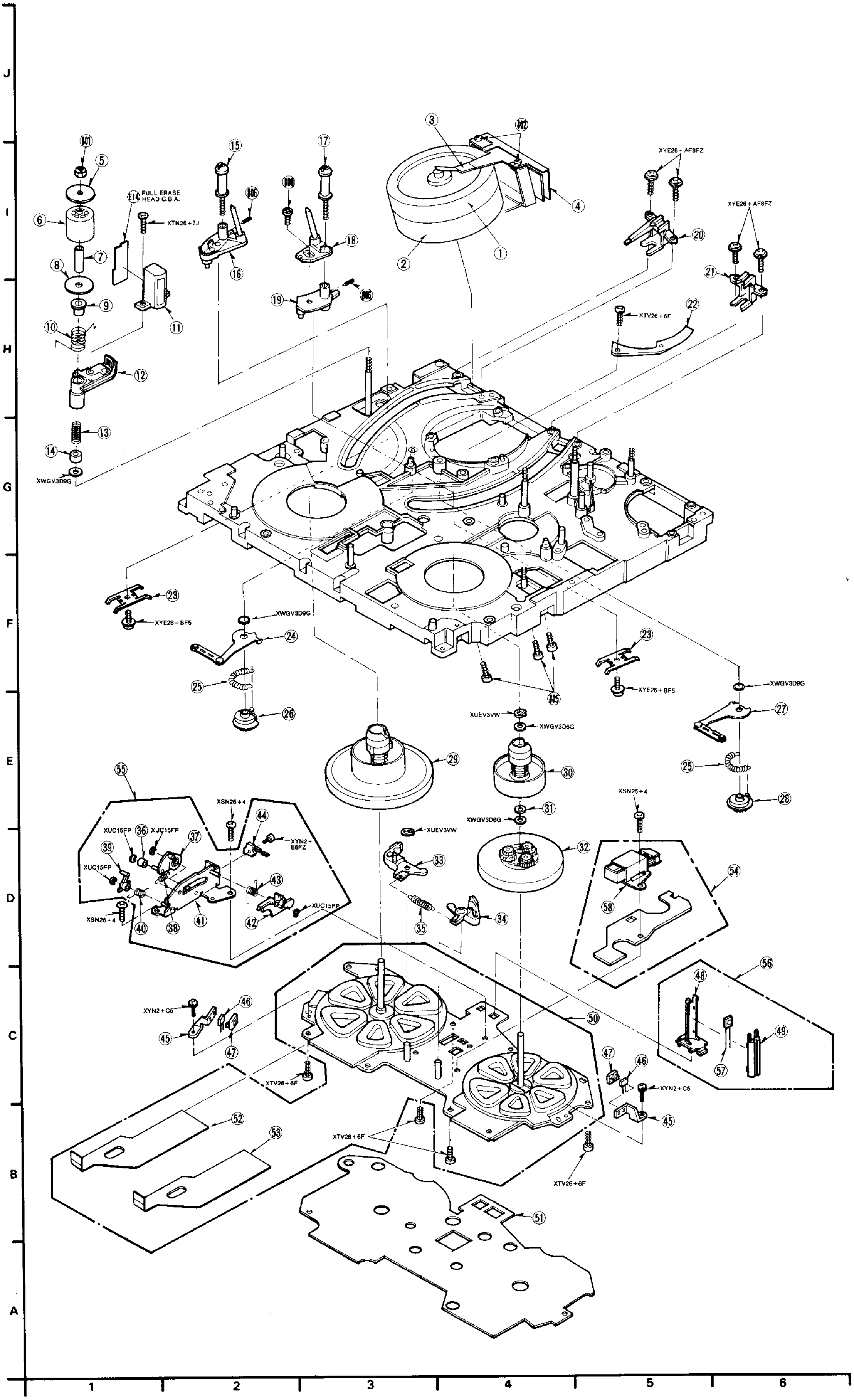

POWER
4P CONNECTOR
SAFETY TAB SW
MODE SELECT SW
CASSETTE DETECT SW
LOADING MOTOR
M
SUPPLY PHOTO TR C.B.
TAKE UP PHOTO TR C.B.
MODE SELECT SW
REEL SOLENOID/ CASSETTE DOWN SW/ SENSOR LED
POWER(2) C.B.A. (VEP01359A)
SERVO C.B.A. (VEP02337A)
2SC603
33K
0.01
4700P
0.033
16V10
FULL ERASE HEAD
FULL ERASE HEAD C.B.A.(VEP00B67A)
SYSTEM CONTROL & REEL SERVO C.B.A. (VEP06534A)
TENSION SENSOR UNIT(VEK4334)
SUPPLY REEL MOTOR
TAKE UP REEL MOTOR
SYSTEM CTL SUB C.B.A. (VEP00P18A)
SYSTEM CONTROL SECTION
REEL SERVO SECTION
JACK(1) C.B.
JACK(2) C.B.
JACK UNIT (VEJ0834: AG-7450-E/B/EP VEJ0870: AG-7450-EG)
CH1 AUDIO ERASE HEAD
CH1 AUDIO HEAD
CH2 AUDIO HEAD
CH2 AUDIO ERASE HEAD
CONTROL HEAD
10
A/C HEAD C.B.
OPERATION C.B.A. (VEP06535A)
CAP MOTOR
FLYING ERASE HEAD
HD AUDIO HEAD (CH1)
HD AUDIO HEAD (CH2)
VIDEO NORMAL HEAD(L)
VIDEO NORMAL HEAD(R)
VIDEO SS HEAD(R')
VIDEO SS HEAD(L')
HEAD AMP C.B.A. (VEP05135A)
CYL MOTOR
DISPLAY SECTION
DEW SENSOR
AUDIO SECTION
UDIO(Hi-Fi,NORMAL & XLR AMP) & DISPLAY C.B.A. (VEP04244A:AG-7450-E/B/EP) (VEP04244B:AG-7450-EG)
VIDEO(1) C.B.A. (VEP03580A)
VIDEO(2) C.B.A. (VEP03581A)

NOTE: DO NOT USE THE PART NUMBER SHOWN ON THIS DRAWING FOR ORDERING.THE CORRECT PART NUMBER IS SHOWN IN THE PARTS LIST. AND MAY BE SLIGHTLY DIFFERENT OR AMENDED SINCE THIS DRAWING WAS PREPARED.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

5 6 7 8 9 10 11 12 13 14 15 16

EXPLODED VIEWS ❶ *Transport Section*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101
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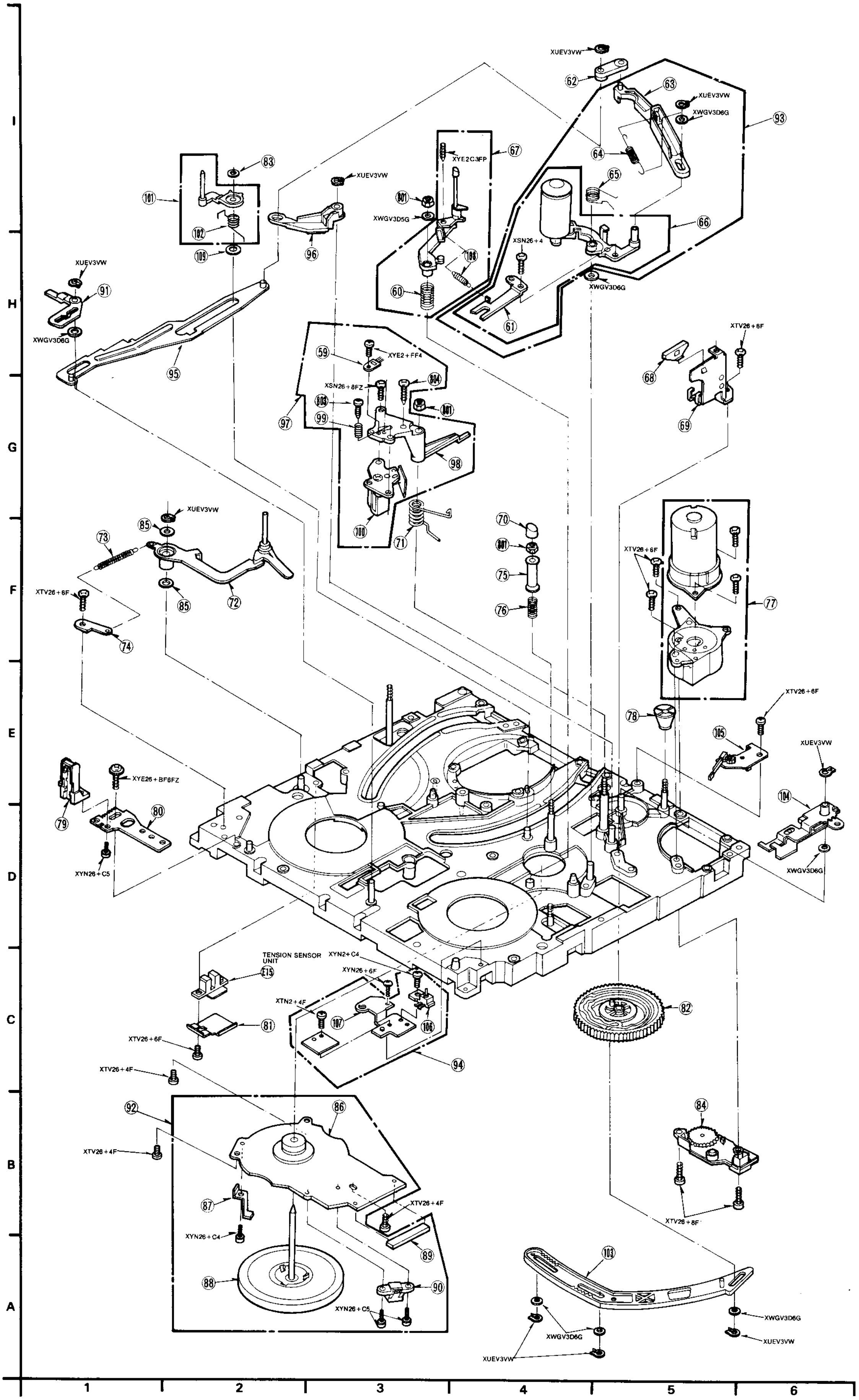
12
13
14
XWGV3D9G
E14 FULL ERASE HEAD C.B.A.
XTN26+7J
11
15
16
106
100
17
18
19
106
3
102
4
1
2
XYE26+AF8FZ
20
XYE26+AF8FZ
21
XTV26+6F
22
23
XYE26+BF5
XWGV3D9G
24
25
26
23
105
XYE26+BF5
XWGV3D9G
27
25
28
XUEV3VW
XWGV3D6G
29
30
31
XWGV3D6G
32
55
XSN26+4
XUC15FP
36
XUC15FP
37
44
XYN2+E6FZ
39
XUC15FP
43
XUC15FP
XSN26+4
40
38
41
42
XUEV3VW
33
35
34
XSN26+4
54
58
56
48
49
57
XYN2+C5
46
45
47
50
XTV26+6F
47
46
XYN2+C5
45
52
53
XTV26+6F
XTV26+6F
51

❷ Moving Mechanism Section


XUEV3VW
(62)
(63)
XUEV3VW
XWGV3D6G
(93)
(67)
XYE2C3FP
(83)
XUEV3VW
(64)
(65)
(101)
(801)
XWGV3D5G
(66)
(102)
(96)
XSN26+4
(108)
(109)
XWGV3D6G
XUEV3VW
(91)
(60)
(61)
XWGV3D6G
XTV26+8F
(59)
XYE2+FF4
(68)
(95)
XSN26+8FZ
(804)
(803)
(801)
(99)
(97)
(69)
(98)
XUEV3VW
(70)
(85)
(801)
XTV26+6F
(73)
(100)
(71)
(75)
(77)
XTV26+6F
(72)
(85)
(76)
(74)
XTV26+6F
(78)
(105)
XUEV3VW
XYE26+BF6FZ
(80)
(104)
(79)
XYN26+C5
XWGV3D6G
TENSION SENSOR UNIT
XYN2+C4
(E15)
XYN26+6F
XTN2+4F
(82)
(107)
(106)
(81)
XTV26+6F
(94)
XTV26+4F
(92)
(86)
(84)
XTV26+4F
(87)
XTV26+4F
XYN26+C4
XTV26+8F
(89)
(103)
(88)
(90)
XYN26+C5
XWGV3D6G
XWGV3D6G
XUEV3VW
XUEV3VW
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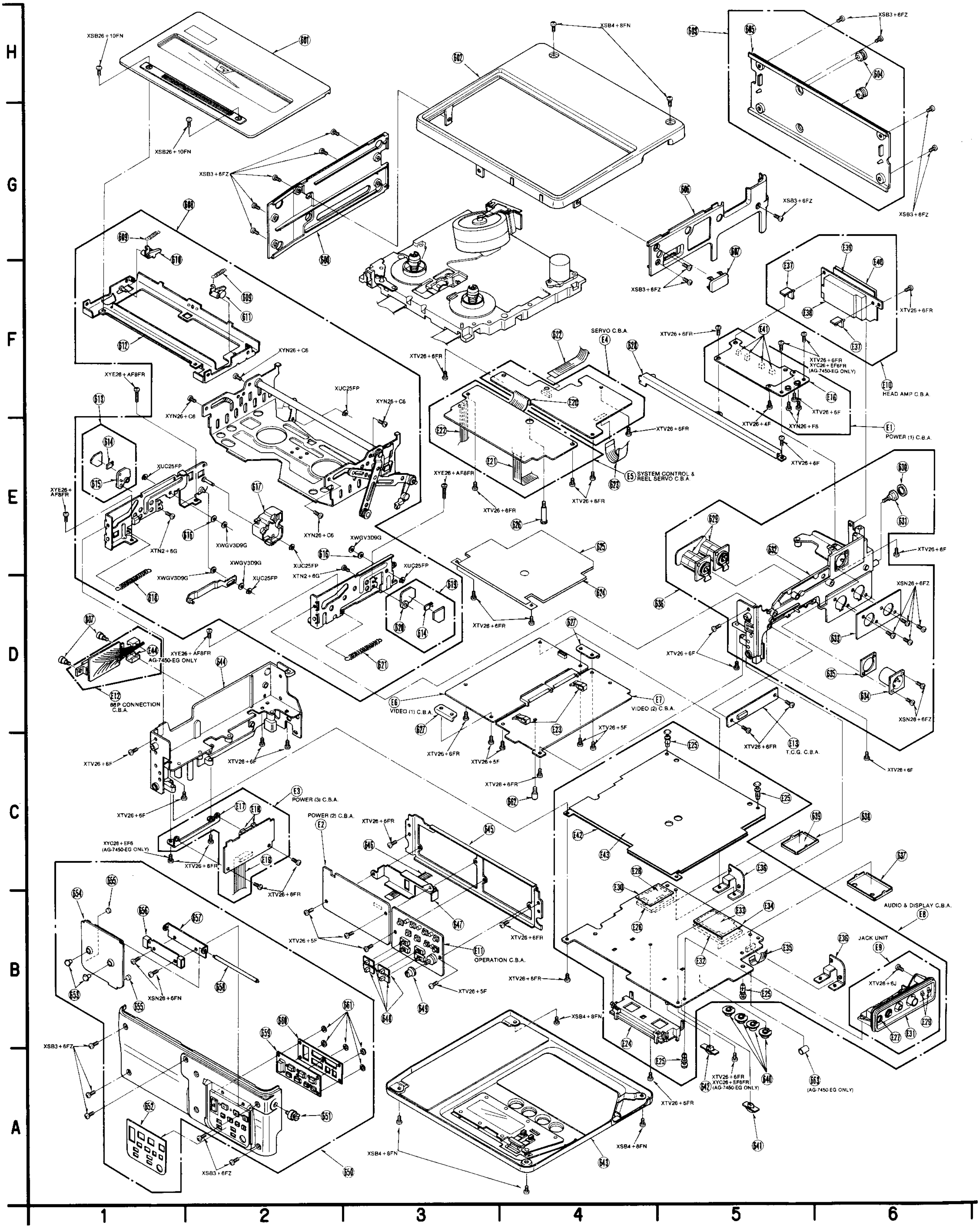
❸ *Chassis Parts, Cassette Up Mechanism & Casing Parts Section*


H
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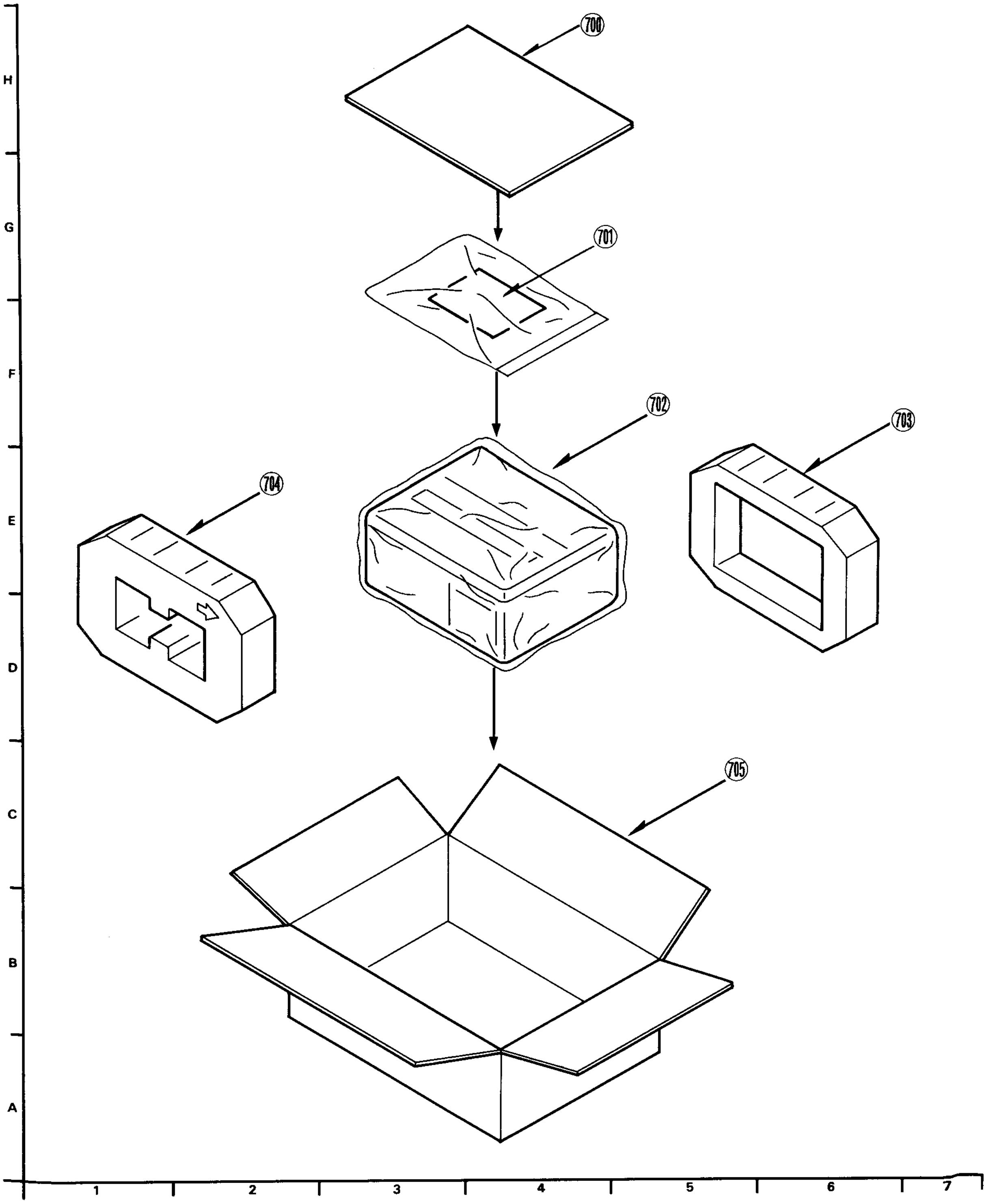
6
XSB26+10FN
601
XSB26+10FN
602
XSB4+8FN
603
605
XSB3+6FZ
604
XSB3+6FZ
XSB3+6FZ
606
XSB3+6FZ
607
XSB3+6FZ
608
609
610
609
611
612
600
E39
E40
E37
E38
E37
XTV26+6FR
XTV26+6FR
E41
XTV26+6FR
XYC26+EF6FR
(AG-7450-EG ONLY)
E10
HEAD AMP C.B.A.
E16
XTV26+6F
XTV26+4F
XYN26+F8
E1
POWER (1) C.B.A.
XTV26+6F
XYN26+C6
XYE26+AF8FR
613
614
615
XUC25FP
XYN26+C6
XYN26+C6
XYE26+AF8FR
XTN2+6G
616
XWGV3D9G
617
XYN26+C6
XWGV3D9G
616
XUC25FP
XWGV3D9G
XWGV3D9G
XUC25FP
XTN2+6G
XUC25FP
618
619
620
614
621
XTV26+6FR
SERVO C.B.A.
E4
622
628
E20
E22
E21
XTV26+6FR
E5 SYSTEM CONTROL & REEL SERVO C.B.A.
623
XYE26+AF8FR
XTV26+6FR
XTV26+6FR
626
625
624
XTV26+6FR
638
631
629
632
636
XTV26+6F
XSN26+6FZ
633
XTV26+6F
635
634
XSN26+6FZ
807
E44
AG-7450-EG ONLY
XYE26+AF8FR
E12
68P CONNECTION C.B.A.
644
XTV26+6F
XTV26+6F
627
E6
VIDEO (1) C.B.A.
E7
VIDEO (2) C.B.A.
627
E23
XTV26+6FR
XTV26+5F
XTV26+5F
XTV26+6FR
662
XTV26+6FR
E13
T.C.G. C.B.A.
XTV26+6F
E25
E25
E42
E43
639
638
637
XTV26+6F
E3
POWER (3) C.B.A.
E17
E18
XYC26+EF6
(AG-7450-EG ONLY)
XTV26+6FR
E19
XTV26+6FR
POWER (2) C.B.A.
E2
XTV26+6FR
646
645
647
XTV26+5F
XTV26+6FR
E11
OPERATION C.B.A.
XTV26+5F
648
649
E28
E30
E26
E36
E33
E34
E32
E35
AUDIO & DISPLAY C.B.A.
E8
JACK UNIT
E9
E36
XTV26+6J
E29
E27
E31
XTV26+6FR
XSB4+8FN
E24
E25
E25
642
XTV26+6FR
XYC26+EF6FR
(AG-7450-EG ONLY)
640
663
(AG-7450-EG ONLY)
XTV26+6FR
641
643
XSB4+8FN
XSB4+8FN
654
655
656
657
653
655
XSN26+6FN
658
XSB3+6FZ
659
660
661
651
652
XSB3+6FZ
650

❹ Packing Parts Section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REPLACEMENT PARTS LIST

Notes:

1. • Be sure to make your orders of replacement parts according to this list.
   • "<R>" in Remark column indicates recommended parts.
   • "<M>" in Remark column indicates needed in the periodical maintenance.
2. IMPORTANT SAFETY NOTICE
   Components identified by " ! " have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
   Meaning of symbol ! on this parts list is exactly the same as symbol ⚠ on Schematic and Circuit Board Diagrams.
3. Unless otherwise specified;
   All resistors are in OHMS (Ω), K=1,000Ω, M=1,000KΩ.
4. ITEM NUMBERS WITH CAPITAL LETTER E
   Item numbers with capital letter E (Example: E1, E2,...) in Ref. No. column mean that the parts are listed with the E item numbers in the exploded views.
5. The main assembled parts are shown below C.B.A. marked with "■".
6. When ordering parts, use part No. only from Part No. column.
7. Printed circuit board assembly with mark (NLA) is no longer available after discontinuation of the product.

1. SERVICING FIXTURES & TOOLS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
		VFM8180HMDH	VHS Alignment Tape	1	
		VFK0329	Post Adj. Screwdriver	1	
		VFK0132	Back Tension Meter	1	(T2-H7-UM)
			(Tentelometer,		
			Made in U.S.A.)		
		VFK0191	Post Adj. Plate	1	
		VFK0133	Dial Torque Gauge	1	
		VFK0180	Plastic Clamper Only	1	
		VFK0134	Adaptor for VFK0133	1	
		VFK0190	Reel Table Height Fixture	1	
		VFK0188	Cassette Holder Fixture	1	
		VFK0328	H-Position Adj. Fixture	1	
		VFK0330	Fine Adj. Screwdriver	1	
			(3mm Phi)		
		VFK0335	Retaining Ring Remover	1	
		VFK0326	Hex.Wrench Set	1	
		VFK0343	Check Light	1	
		MOR265	Molytone Grease	1	
		VFK27	Head Cleaning Stick	1	

2. MECHANICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
1(1)		VEH0437	UPPER CYLINDER UNIT	1	<M><R>
2(1)		VEG0734	LOWER CYLINDER UNIT	1	<M><R><!>
3(1)		VXS0093	EARTH PLATE UNIT	1	
4(1)		VSC2864	SHIELD PLATE	1	
5(1)		VMX1267	UPPER LIMITER	1	
6(1)		VXP1108	P1 ROLLER UNIT	1	
7(1)		VMX1268	COLLAR (B)	1	
8(1)		VMX1267	LOWER LIMITER	1	
9(1)		VDB0721	LIMITER STAND	1	
10(1)		VMB2014	FE HEAD LEVER SPRING	1	
11(1)		VBS0031	FE HEAD	1	<M><R>
12(1)		VML2302	FE HEAD LEVER	1	
13(1)		VMB1239	LIMITER SPRING	1	
14(1)		VMX0680	COLLAR (A)	1	
15(1)		VXP0761	ROLLER POST (S) UNIT	1	
16(1)		VXA2039	SHAFT HOLDER (S) 1 UNIT	1	
17(1)		VXP0302	ROLLER POST (T) UNIT	1	
18(1)		VXA2041	INCLINED BASE (T) UNIT	1	
19(1)		VXA2042	SHAFT HOLDER (T) UNIT	1	
20(1)		VMD0613	POST STOPPER (S)	1	
21(1)		VMD0614	POST STOPPER (T)	1	
22(1)		VMD0609	INCLINED SUPPORT	1	
23(1)		VMA6422	SHAFT HOLDER PLATE	2	
24(1)		VXL1916	LOADING ARM (S) 1 UNIT	1	
25(1)		VMB1865	LOADING SPRING	2	
26(1)		VXP1102	LOADING GEAR (S) UNIT	1	<M><R>
27(1)		VXL1914	LOADING ARM (T) 1 UNIT	1	
28(1)		VXP1101	LOADING GEAR (T) UNIT	1	<M><R>
29(1)		VXR0122	SUPPLY REEL TABLE UNIT	1	<M><R>
30(1)		VXR0121	TAKEUP REEL TABLE UNIT	1	<M><R>
31(1)		VMX0708D	THRUST WASHER	1	
32(1)		VXP0564	TAKEUP ROTOR UNIT	1	<M><R>
33(1)		VXZ0173	MAIN BRAKE (S) UNIT	1	<M><R>
34(1)		VXZ0174	MAIN BRAKE (T) UNIT	1	<M><R>
35(1)		VMB1241	BRAKE SPRING	1	
36(1)		VDP0969	LOCK ROLLER	1	
37(1)		VXA2035	LOCK BOARD UNIT	1	
38(1)		VMB1227	LOCK BOARD SPRING	1	
39(1)		VML1562	LOCK LEVER (B)	1	
40(1)		VMB1226	LOCK LEVER (B) SPRING	1	
41(1)		VXA2034	LOCK PLATE UNIT	1	
42(1)		VML1561	LOCK LEVER (A)	1	
43(1)		VMB1225	LOCK LEVER (A) SPRING	1	
44(1)		VSH0026	LEAF SWITCH	1	<R>
45(1)		VMD0611	FG SUPPORT (1)	2	
46(1)		HW-300B	HALL IC	2	
47(1)		VMD0621	FG SUPPORT (2)	2	
48(1)		VMX0682	LED HOLDER (R)	1	
49(1)		VMX0683	LED HOLDER (L)	1	
50(1)		VXA3729	STATOR BASE (2) UNIT	1	<M><R>
51(1)		VMZ0565	INSULATE SHEET	1	
52(1)		VWJ0370	SUPPLY REEL MOTOR FPC	1	
53(1)		VWJ0369	TAKEUP REEL MOTOR FPC	1	
54(1)		VXA3730	SOLENOID UNIT	1	
55(1)		VXA2033	CASSETTE LOCK UNIT	1	<M><R>
56(1)		VEK2115	SENSOR LED UNIT	1	
57(1)		LN59NV	LED	1	
58(1)		VSJ0066	SOLENOID	1	<R><!>
59(1)		VSQ0540	DEW SENSOR	1	<R>
60(2)		VMB1299	P5 SPRING	1	
61(2)		VML1565	P5 KICK LEVER	1	
62(2)		VML1563	GUIDE LEVER	1	
63(2)		VMM0130	PRESSURE LEVER	1	
64(2)		VMB1228	PRESSURE SPRING	1	
65(2)		VMB1238	PRESSURE ARM SPRING	1	
66(2)		VXL1926	PRESSURE ARM (1) UNIT	1	
67(2)		VXL1196	P5 ARM UNIT	1	
68(2)		VMA6413	OPENER COVER	1	
69(2)		VMA6421	OPENER ANGLE	1	
70(2)		VMD0619	P4 POST CAP	1	
71(2)		VMB1240	A/C HEAD HEIGHT SPRING	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
72(2)		VXL1920	TENSION ARM UNIT	1	
73(2)		VMB1230	TENSION ARM SPRING	1	
74(2)		VMD0604	TENSION ARM SPRING TIE (C)	1	
75(2)		VMX0681	POST SLEEVE	1	
76(2)		VMB1239	LIMITER SPRING	1	
77(2)		VEM0255	LOADING MOTOR UNIT	1	<M><R><!>
78(2)		VHN0072	ADJUST NUT	1	
79(2)		VSH0023	SAFETY TAB SWITCH	1	<R>
80(2)		VMA6414	SAFETY TAB BASE	1	
81(2)		VMZ1405	INSULATION SHEET	1	
82(2)		VDG0600	CAM GEAR	1	<M><R>
83(2)		VMX0653	CUT WASHER	1	
84(2)		VSS0261	MODE SELECT SW	1	<M><R>
85(2)		VMX0239C	THRUST WASHER	2	
86(2)		VEK2113	CAPSTAN STATOR UNIT	1	<R><!>
87(2)		VMA6714	STOPPER	1	
88(2)		VXP0557	CAPSTAN ROTOR UNIT	1	
89(2)		VJS1403	CAPSTAN STATOR CONNECTOR	1	
90(2)		VBK0041	MR FG SENSOR	1	
91(2)		VDK0009	BRAKE CAM	1	
92(2)		VEM0206	DD CAPSTAN UNIT	1	<M><R><!>
93(2)		VXL1925	PRESSURE ROLLER UNIT	1	<M><R>
94(2)		VXA3757	S-VHS CASSETTE DISTINCTION	1	
95(2)		VXL1918	MAIN LEVER UNIT	1	<M><R>
96(2)		VXL1917	BRAKE ARM	1	
97(2)		VXA3734	A/C HEAD ARM UNIT	1	
98(2)		VML1567	A/C HEAD ARM	1	
99(2)		VMB0935	ADJUST SPRING	1	
100(2)		VBR0153	A/C HEAD	1	<M><R>
101(2)		VXL1390	SUB ARM UNIT	1	
102(2)		VMB1469	SUB ARM SPRING	1	
103(2)		VXP1103	LOADING DRIVE GEAR UNIT	1	<M><R>
104(2)		VXL1391	SUB ARM ADJUST LEVER UNIT	1	
105(2)		VXA3727	EJECT SW ANGLE UNIT	1	
106(2)		VSP0293	CASSETTE DISINCTION SW	1	
107(2)		VMA7160	SW BASE	1	
108(2)		VMB1299	PIN PRESSURE SPRING	1	
109(2)		VMX0960	CUT WASHER	1	
600(3)		VGP2302	SIDE PANEL (L)	1	
601(3)		VYF1392	CASSETTE COVER UNIT	1	<R>
602(3)		VYP2829	REAR PANEL UNIT	1	
603(3)		VYK2605	BOTTOM PANEL UNIT	1	
604(3)		VKA0038	FOOT RUBBER	2	
605(3)		VGM0486	BOTTOM PANEL	1	
606(3)		VGP2303	SIDE PANEL (R)	1	
607(3)		VMG0482	RUBBER CAP (B)	1	
608(3)		VXA3731	CASSETTE UP UNIT	1	<M><R>
609(3)		VMB1222	CASSETTE SUPPORT SPRING	2	
610(3)		VXL1225	CASSETTE PRESSURE LEVER (L)	1	
			UNIT		
611(3)		VXL1226	CASSETTE PRESSURE LEVER (R)	1	
			UNIT		
612(3)		VXA2118	HOLDER B UNIT	1	
613(3)		VXA3726	PHOTO HOLDER (L) UNIT	1	
614(3)		PN158NV	PHOTO TR	2	
615(3)		VMD0607	PHOTO HOLDER (L)	1	
616(3)		VDP0967	MAIN ARM ROLLER	2	
617(3)		VDG0169	DAMPER UNIT	1	
618(3)		VMB1224	HOLDER SPRING (L)	1	
619(3)		VXA3732	PHOTO HOLDER (R) UNIT	1	
620(3)		VMD0606	PHOTO HOLDER (R)	1	
621(3)		VMB1223	HOLDER SPRING (R)	1	
622(3)		VWJ0380	FLEXIBLE WIRE	1	
623(3)		VWJ0381	FLEXIBLE WIRE	1	
624(3)		VSC2925	VIDEO SHIELD SHEET	1	
625(3)		VMZ1430	VIDEO INSULLATION SHEET	1	
626(3)		VMS4139	SUPPORT (A)	1	
627(3)		VMP2450	ANGLE	2	
628(3)		VMP2215	REAR REINFORCEMENT ANGLE	1	
629(3)		VJS2665	XLR CONNECTOR	2	
630(3)		VMG0481	RUBBER CAP (A)	1	
631(3)		VMS3372	STOPPER PIN	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
632(3)		VMP2025	BRACKET (R)	1	
633(3)		VGH2043	XLR NAME PLATE	1	
634(3)		VEK4306	POWER TERMINAL UNIT	1	
635(3)		VGH2044	DC IN MAME PLATE	1	
636(3)		VYK0949	BRACKET (R) UNIT	1	
637(3)		VSC2901	NORMAL AUDIO SHIELD CASE	1	
			(TOP)		
638(3)		VSC2898	HD AUDIO SHIELD CASE (TOP)	1	
639(3)		VMZ1425	HD AUDIO INSULATION SHEET	1	
640(3)		VGU4749	AUDIO VR KNOB	4	
641(3)		VGU4747	AUDIO SELECT KNOB	1	
642(3)		VGU4746	BACK LIGHT SELECT KNOB	1	
643(3)		VYP2769	FRONT PANEL UNIT	1	<R>
644(3)		VMP2024	BRACKET (L)	1	
645(3)		VMP2212	ANGLE	1	
646(3)		VWJ0387	FLEXIBLE WIRE	1	
647(3)		VSC2904	SHIELD CASE	1	
648(3)		VGU3495	SLIDE SW COVER (2)	4	
649(3)		VGU4838	ROTARY VR KNOB	1	
650(3)		VYK2604	TOP PANEL UNIT	1	<R>
651(3)		VMS4083	BELT FOOK	1	
652(3)		VGH2042	OPERATION NAME PLATE	1	
653(3)		VMG0483	OPERATION DOOR RUBBER	2	
			PROTECT		
654(3)		VKF1270	OPERATION DOOR	1	
655(3)		VMT0164	DOOR CUSHION	2	
656(3)		VMC0496	OPERATION DOOR SPRING	1	
657(3)		VMP2210	SPRING HOLDER PLATE	1	
658(3)		VMS4138	OPERATION DOOR SHAFT	1	
659(3)		VGU4750	OPERATION BUTTON	1	
660(3)		VMP2211	OPERATION BUTTON SUPPORT	1	
			PLATE		
661(3)		VHN0133	PUSH NUT	5	
662(3)		VMS3188	SUPPORT (B)	1	
662(3)		VLP0093	CORE	1	FOR AG-7450-EG
700(4)		VPG4855	CUSHION PLATE	1	AG-7450-B/EG/EP ONLY
701(4)		VQT3217	OPERATING INSTRUCTIONS	1	AG-7450-E/B ONLY
701(4)		VQT3218	OPERATING INSTRUCTIONS	1	AG-7450-E/EG ONLY
701(4)		VQT3219	OPERATING INSTRUCTIONS	1	AG-7450-EP ONLY
702(4)		VPF0278	POLYETHYLENE BAG	1	
703(4)		VPN2455	CUSHION (R)	1	
704(4)		VPN2454	CUSHION (L)	1	
705(4)		VPG4774	PACKING CASE	1	AG07450-E ONLY
705(4)		VPG4775	PACKING CASE	1	AG07450-B ONLY
705(4)		VPG4777	PACKING CASE	1	AG-7450-EP ONLY
705(4)		VPG4855	PACKING CASE	1	AG-7450-EG ONLY
800		VHD0162	SCREW	1	
801(1,2)		VHN0023	M3 NYLON NUT	4	
802(1)		VHD0422	SCREW	2	
803(2)		VHD0077	SCREW	1	
804(2)		VHD0144	SCREW	1	
805(1)		VHD0081	SCREW	3	
806(1)		XXEV0004	SCREW	2	
807(3)		VHD0508	SCREW	2	

3. ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
E1		VEP01354A	POWER (1) C.B.A.	1	(NLA)<R>
E2		VEP01359A	POWER (2) C.B.A.	1	(NLA)<R>
E3		VEP01360A	POWER (3) C.B.A.	1	(NLA)<R>
E4		VEP02337A	SERVO C.B.A.	1	(NLA)<R>
E5		VEP06534A	SYSTEM CONTROL/REEL C.B.A.	1	(NLA)<R>
E45		VEP0OP18A	SYSTEM CONTROL SUB C.B.A.	1	(NLA)<R>
E6		VEP03580A	VIDEO (1) C.B.A.	1	(NLA)<R>
E7		VEP03581A	VIDEO (2) C.B.A.	1	(NLA)<R>
E8		VEP04244A	AUDIO & DISPLAY C.B.A.	1	FOR AG-7450-E/B/EP
					(NLA)<R>
					INCLUDING THE JACK
					UNIT (VEJ0834)
E9		VEJ0834	JACK UNIT	1	FOR AG-7450-E/B/EP
					<R>
					PARTS LIST IS
					INCLUDED IN AUDO &
					DISPLAY C.B.A.
					(VEP04244A)
E8		VEP04244B	AUDIO & DISPLAY C.B.A.	1	FOR AG-7450-EG
					(NLA)<R>
					INCLUDING THE JACK
					UNIT (VEJ0870)
E9		VEJ0870	JACK UNIT	1	FOR AG-7450-EG
					<R>
					PARTS LIST IS
					INCLUDED IN AUDIO &
					DISPLAY C.B.A.
					(VEP04244B)
E10		VEP05135A	HEAD AMP C.B.A.	1	(NLA)<R>
E11		VEP06535A	OPERATION C.B.A.	1	(NLA)<R>
E12		VEK4304	68P CONNECTION C.B.A.	1	FOR AG-7450-E/B/EP
					(NLA)<R>
E12		VEK4586	68P CONNECTION C.B.A.	1	FOR AG-7450-EG
					(NLA)<R>
E13		VEK4303	T.C.G. C.B.A.	1	(NLA)<R>
E14		VEP00B67A	FULL ERASE HEAD C.B.A.	1	(NLA)<R>
E15		VEK4334	TENSION SENSOR UNIT	1	(NLA)<R>
	■	VEP01354A	POWER (1) C.B.A.		
D1101		10E1	DIODE	1	<!><R>
D1102		MA4110HML	DIODE	1	<R>
D1103		HZ4CLL	DIODE	1	<R>
D1104		MA4051M	DIODE	1	<R>
F1101		XBA2C16TB0	FUSE 250V 1.6A	1	<!><R>
F1102		XBA2C50TB0	FUSE 250V 5A	1	<!><R>
P1101		VJP1142	CONNECTOR(MALE) 3P	1	
P1102		VJP1236T	CONNECTOR(MALE) 9P	1	
P1103		VJP1231T	CONNECTOR(MALE) 4P	1	
P1104		VJP1232T	CONNECTOR(MALE) 5P	1	
Q1101		2SJ143	TRANSISTOR	1	<!><R>
Q1102		2SB946	TRANSISTOR	1	(P,Q)<R>
QR1101		UN1212	TRANSISTOR-RESISTOR	1	<R>
QR1102		UN1213	TRANSISTOR-RESISTOR	1	<R>
R1101		ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R1102		ERDS2TJ272	C.RESISTOR 1/4W 2.7K	1	
R1103		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
			MISCELLANEOUS		
E16		VSC2847	HEAT SINK	1	
E41		VJF0190	FUSE HOLDER	4	
	■	VEP01359A	POWER (2) C.B.A		
C1011		ECEA1CK101	E.CAPACITOR 10V 100U	1	
C1012,13		ECUX1H4732FN	C.CAPACITOR CH 50V 0.047U	2	
C1014-16		ECSE1VT105Z	T.CAPACITOR 35V 1U	3	
C1017		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C1018,19		ECUX1H561KBN	C.CAPACITOR CH 50V 560P	2	
C1020		ECUX1H820JCN	C.CAPACITOR CH 50V 82P	1	
C1021		ECEA1CK101	E.CAPACITOR 10V 100U	1	
C1022		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C1025		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C1026		ECEA1CSS221	E.CAPACITOR 16V 220U	1	
C1028,29		ECEA1CSS221	E.CAPACITOR 16V 220U	2	
C1030-32		ECEA1CK101	E.CAPACITOR 10V 100U	3	
C1033		ECSE1VT105Z	T.CAPACITOR 35V 1U	1	
C1036		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
IC1003		BA6149LS	IC	1	<R>
IC1004		UN101	IC	1	<R>
L1004		ELC10E014	COIL 330UH	1	
L1005		ELC08D011	COIL	1	
L1006		VLQ0129	COIL 300UH	1	
L1007		ELC08D011	COIL	1	
L1008		VLQ0129	COIL 300UH	1	
L1009-11		ELC10E014	COIL 330UH	3	
L1013		ELC08D011	COIL	1	
P1002		VJS1409	CONNECTOR(FEMALE) 16P	1	
P1003		VJS2112	CONNECTOR(FEMALE) 7P	1	
P1006		VJP1231T	CONNECTOR(MALE) 4P	1	
P1007		VJP1596T	CONNECTOR(MALE) 3P	1	
R1001		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R1011		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R1012		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R1013		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R1014		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R1017-20		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	4	
R1021		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R1022		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	1	
R1023		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R1024		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R1025-29		ERDS2TJ122	C.RESISTOR 1/4W 1.2K	5	
R1030		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R1031		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
VR1001,02		EVM7NSX00B14	V.RESISTOR 10K	2	
X1001		VSX0136	CRYSTAL OSCILLATOR	1	<R>
	■	VEP01360A	POWER (3) C.B.A.		
C1001		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C1002		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C1003		ECUM1H681KBN	C.CAPACITOR CH 50V 680P	1	
C1005		ECEA1CK101	E.CAPACITOR 10V 100U	1	
C1006,07		ECEA1AKA221	E.CAPACITOR 10V 220U	2	
C1008		ECQB1H102JH	P.CAPACITOR 50V 1000P	1	
C1009		ECSF1VE474	T.CAPACITOR 35V 0.47U	1	
C1010		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C1023		ECUM1H391KBN	C.CAPACITOR CH 50V 390P	1	
C1024		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C1034		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
D1004		ERB83-004	DIODE	1	<R>
F1002		XBA2C10TB0	FUSE 250V 1A	1	<!><R>
IC1001		BA9700AF	IC	1	<R>
IC1005		M5236ML	IC	1	<R>
L1001,02		ELC10E013	COIL 150UH	2	
L1003		ELC08D011	COIL	1	
L1012		ELC08D011	COIL	1	
L1014		VLP0090	COIL	1	
P1004		VJS2121	CONNECTOR(FEMALE) 16P	1	
P1008		VJP1596T	CONNECTOR(MALE) 3P	1	
P1010		VJP1598T	CONNECTOR(MALE) 5P	1	
Q1002		2SB933	TRANSISTOR	1	(P,Q)<R>
Q1003		2SB947	TRANSISTOR	1	(P)<R>
Q1004		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
QR1002		UN2113	TRANSISTOR-RESISTOR	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR1005		UN2212	TRANSISTOR-RESISTOR	1	<R>
R1002		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R1003		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R1005		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R1006		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R1007		ERDS2TJ392	C.RESISTOR 1/4W 3.9K	1	
R1009		ERJ6GEYG273	M.RESISTOR CH 1/10W 27K	1	
R1010		ERJ6GEYG682	M.REISITOR CH 1/10W 6.8K	1	
R1015		ERDS2TJ390	C.RESISTOR 1/4W 39	1	
R1016		ERDS2TJ561	C.RESISTOR 1/4W 560	1	
R1033		ERDS2TJ820	C.RESISTOR 1/4W 82	1	
R1034		ERDS2TJ332	C.RESISTOR 1/4W 3.3K	1	
R1035		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R1036		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R1037,38		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	2	
R1039		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R1040		ERJ6GEYJ220	M.RESISTOR CH 1/10W 22	1	
VR1003		EVM7NSX00B53	V.RESISTOR 5K	1	
			MISCELLANEOUS		
E17		VMP2213	ANGLE	1	
E18		VJF0190	FUSE HOLDER	2	
E19		VWJ0383	FLEXIBLE WIRE	1	
	■	VEP02337A	SERVO C.B.A.		
C2001		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	1	
C2002		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2003,04		ECEA0JKS470	E.CAPACITOR 6.3V 47U	2	
C2005		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2006		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C2007		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C2008		ECQB1H472JH	P.CAPACITOR 50V 4700P	1	
C2009		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2010		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2011		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C2012		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2013		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2014		ECEA1CSN100	E.CAPACITOR 16V 10U	1	
C2015		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2016		ECEA1CSN100	E.CAPACITOR 16V 10U	1	
C2017		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2018		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	1	
C2019		ECQV1H683JZ	P.CAPACITOR 50V 0.068U	1	
C2020,21		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C2022		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2023		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C2024		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C2025		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2026		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2027-29		ECEA1CKS100	E.CAPACITOR 16V 10U	3	
C2030-32		ECEA0JKS330	E.CAPACITOR 6.3V 33U	3	
C2033-35		ECEA1HKS3R3	E.CAPACITOR 50V 3.3U	3	
C2036,37		ECUX1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C2038		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C2039		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2040-42		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	3	
C2044		ECUM1H333ZFN	C.CAPACITOR CH 50V 0.033U	1	
C2046		ECUM1H333ZFN	C.CAPACITOR CH 50V 0.033U	1	
C2048		ECUM1H333ZFN	C.CAPACITOR CH 50V 0.033U	1	
C2049		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C2050		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C2051		ECEA1CKS101	E.CAPACITOR 16V 100U	1	
C2052-54		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	3	
C2056		ECUM1H333ZFN	C.CAPACITOR CH 50V 0.033U	1	
C2058		ECUM1H333ZFN	C.CAPACITOR CH 50V 0.033U	1	
C2060		ECUM1H333ZFN	C.CAPACITOR CH 50V 0.033U	1	
C2061		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C2062		ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2063		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C2064		ECEA1CKS101	E.CAPACITOR 16V 100U	1	
C2065		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2066		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2067		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2068		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2069		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2070		ECUM1H331KBN	C.CAPACITOR CH 50V 330P	1	
C2071,72		ECQB1H333JH	P.CAPACITOR 50V 0.033U	2	
C2073		ECQB1H332JH	P.CAPACITOR 50V 3300P	1	
C2074		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C2075		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C2076		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2077		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2078		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C2079		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C2080		ECEA1HKS0R1	E.CAPACITOR 50V 0.1U	1	
C2081		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2082		ECEA1HKN010	E.CAPACITOR 50V 1U	1	
C2083		ECEA1ASN100	E.CAPACITOR 10V 10U	1	
C2084		ECEA1HKNR47	E.CAPACITOR 50V 0.47U	1	
C2085,86		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C2087		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
D2001-03		MA153	DIODE	3	<R>
IC2001		MN6742VCRA	IC	1	<R>
IC2002		AN3724S	IC	1	<R>
IC2003,04		BA6435S	IC	2	<R>
IC2005		AN6914S	IC	1	<R>
IC2006		AN6562S	IC	1	<R>
IC2007		AN6914S	IC	1	<R>
IC2008		AN78L05	IC	1	<R>
IC2009,10		AN6562S	IC	2	<R>
IC2011		BU2007F	IC	1	<R>
L2002-04		VLQEL05F101K	COIL 100UH	3	
P2001		VJS2282	CONNECTOR(FEMALE) 7P	1	
P2002		VJS2709	CONNECTOR(FEMALE) 15P	1	
P2003		VJS2120	CONNECTOR(FEMALE) 15P	1	
P2004		VJP1596T	CONNECTOR(MALE) 3P	1	
P2005		VJS2710B028	CONNECTOR(FEMALE) 28P	1	
Q2002		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q2003-05		2SD601	TRANSISTOR CHIP	3	(Q,R,S)<R>
Q2006		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q2007		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
QR2005		UN1213	TRANSISTOR-RESISTOR	1	<R>
R2001		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R2003		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2004		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2005		ERJ6GEYJ564	M.RESISTOR CH 1/10W 560K	1	
R2006,07		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2008,09		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R2010		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2011		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2012,13		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	2	
R2014		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R2015		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R2016		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2018		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R2019		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2020,21		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2022		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R2023,24		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	2	
R2025		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R2026		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R2027		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R2028,29		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	2	
R2030		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R2031		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R2032		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R2033		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2034		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R2035		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2036		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R2037,38		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R2039		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2040		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R2041-43		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R2044		ERJ6GEYJ154	M.RESISTOR CH 1/10W 150K	1	
R2045		ERJ6GEYJ752	M.RESISTOR CH 1/10W 7.5K	1	
R2046		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R2047		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R2048		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R2049		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R2050		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2051		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R2052,53		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	2	
R2054		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R2055		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2056		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R2057		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R2058		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R2059		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R2060		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2061		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R2062		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R2063,64		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2065		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R2066		ERX12SJR56	M.RESISTOR 1/2W 0.56	1	
R2067,68		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	2	
R2069		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R2070		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2071		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2072,73		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2074		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2075,76		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2077		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R2078		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2079		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R2080		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2081		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R2082		ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2083,84		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	2	
R2085		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R2086		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R2087,88		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R2089,90		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2091		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R2092		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R2093		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2094		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2096		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R2097		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2098		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2100,01		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	2	
R2102		ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R2103		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R2104		ERJ6GEYJ184	M.RESISTOR CH 1/10W 180K	1	
R8017		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
VR2001,02		EVM7NSW00B54	V.RESISTOR 50K	2	
VR2006		EVMLGGA00B25	V.RESISTOR 200K	1	
X2001		VSX0326	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
E20		VWJ0389	FLEXIBLE WIRE	1	
	■	VEP06534A	SYSTEM CONTROL/REEL C.B.A.		
C2501		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C2502		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C2503		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C2504		ECEA1HKSR22	E.CAPACITOR 50V 0.22U	1	
C2505		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C2506		ECEA1EKN4R7	E.CAPACITOR 25V 4.7U	1	
C2507		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C2508,09		ECEA0JKS220	E.CAPACITOR 6.3V 22U	2	
C2510		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C2511		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C2512,13		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	2	
C2514		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C2515		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2516		ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2517		ECQV1H333JZ	P.CAPACITOR 50V 0.033U	1	
C2518		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C2520-23		ECEA1HKS010	E.CAPACITOR 50V 1U	4	
C2524-26		ECUX1H473ZFN	C.CAPACITOR CH 50V 0.047U	3	
C2527-29		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	3	
C2530-32		ECUM1H473ZFN	C.CAPACITOR CH 50V 0.047U	3	
C2533-35		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	3	
C2536		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	1	
C2537		ECEA1HKSR47	E.CAPACITOR 50V 0.47U	1	
C6001,02		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	2	
C6003		ECUM1H153ZFN	C.CAPACITOR CH 50V 0.015U	1	
C6004		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C6005		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6006		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6007		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C6008		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6009,10		ECEA1CK101	E.CAPACITOR 10V 100U	2	
C6011		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C6012		ECEA1CU471	E.CAPACITOR 16V 470U	1	
C6013		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6014,15		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	2	
C6016		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C6017		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6018		ECUM1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C6019,20		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C6021,22		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6023		ECEA1CKS330	E.CAPACITOR 16V 33U	1	
C6024-28		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C6029		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C6030		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6031		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6032		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C6033		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D2501-04		MA151K	DIODE	4	<R>
D6001,02		11ES1	DIODE	2	<R>
D6003		MA3047M	DIODE	1	<R>
D6004		MA151K	DIODE	1	<R>
D6005		MA151WK	DIODE	1	<R>
D6007		MA151K	DIODE	1	<R>
IC2501		AN3620SA	IC	1	<R>
IC2502		AN3830KA	IC	1	<R>
IC2503		AN3830K	IC	1	<R>
IC2504		UPD65005G272	IC	1	<R>
IC6001		M50747A84FP	IC	1	<R>
IC6002		UPD65031F414	IC	1	<R>
IC6003		M51951AML	IC	1	<R>
IC6004		UPD4011BS	IC	1	<R>
IC6005		AN6914S	IC	1	<R>
IC6006		BA6238AU3	IC	1	<R>
IC6007-11		TD62503F	IC	5	<R>
L6001		VLQEL06F221K	COIL 220UH	1	
L6002		VLQ0163K330	COIL 33UH	1	
P2501		VJS2138	CONNECTOR(FEMALE) 15P	1	
P2502		VJP1596T	CONNECTOR(MALE) 3P	1	
P2503		VJS2138	CONNECTOR(FEMALE) 15P	1	
P6001		VJS2117	CONNECTOR(FEMALE) 12P	1	
P6002		VJP1596T	CONNECTOR(MALE) 3P	1	
P6003-05		VJP1595T	CONNECTOR(MALE) 2P	3	
P6006		VJP1595R	CONNECTOR(MALE) 2P	1	
P6007		VJS2245	CONNECTOR(FEMALE) 20P	1	
P6008		VJP1597T	CONNECTOR(MALE) 4P	1	
P6009		VJP1409	CONNECTOR(MALE) 16P	1	
P6010		VJP1229	CONNECTOR(MALE) 2P	1	
P6011		VJP1231T	CONNECTOR(MALE) 4P	1	
P6012		VJP1595T	CONNECTOR(MALE) 2P	1	
P6013		VJP1596T	CONNECTOR(MALE) 3P	1	
P6014		VJP1595R	CONNECTOR(MALE) 2P	1	
P6015		VJP1602T	CONNECTOR(MALE) 9P	1	
P6016		VJS2710B028	CONNECTOR(FEMALE) 28P	1	
P6017		VJS2117	CONNECTOR(FEMALE) 12P	1	
P6018		VJP1601T	CONNECTOR(MALE) 8P	1	
P6019		VJP1603T	CONNECTOR(MALE) 10P	1	
P6020		VJP1605T	CONNECTOR(MALE) 12P	1	
Q2501		2SD602	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q6001		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q6002		2SB819	TRANSISTOR	1	(Q,R,S)<R>
Q6003		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q6004,05		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q6006		2SB766	TRANSISTOR	1	(Q,R,S)<R>
Q6007		2SD874	TRANSISTOR	1	(Q,R,S)<R>
Q6008		2SB644	TRANSISTOR	1	(Q,R,S)<R>
Q6063		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	<R>
QR2501		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR2502		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR2503,04		UN2213	TRANSISTOR-RESISTOR	2	<R>
QR2505		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR2506		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR2508,09		UN2213	TRANSISTOR-RESISTOR	2	<R>
QR6001,02		UN2215	TRANSISTOR-RESISTOR	2	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R2502		ERJ6GEYJ564	M.RESISTOR CH 1/10W 560K	1	
R2503		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R2504		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R2505		ERJ6GEYJ564	M.RESISTOR CH 1/10W 560K	1	
R2506		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2507		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R2508		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R2509		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R2510-12		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	3	
R2513-16		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R2517		ERDS2TJ101	C.RESISTOR 1/4W 100	1	
R2518,19		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R2520		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R2521		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R2522		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2523		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R2525		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R2526		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R2527		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R2528		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R2529		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R2530		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R2531		ERDS2TJR56	C.RESISTOR 1/4W 0.56	1	
R2532		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R2533		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R2534		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R2535		ERDS2TJ120	C.RESISTOR 1/4W 12	1	
R2536		ERDS2TJ820	C.RESISTOR 1/4W 82	1	
R2537,38		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2539,40		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R2543,44		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R2545		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R2546		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R6001-04		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	4	
R6005		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6006		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R6007-17		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	11	
R6018		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R6019,20		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6022-32		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	11	
R6033,34		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R6035		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R6036		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6037		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R6038,39		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R6040-48		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	9	
R6049,50		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R6051		ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R6052		ERD2FCG470	C.RESISTOR 1/4W 47	1	
R6053		ERDS2TJ470	C.RESISTOR 1/4W 47	1	
R6054		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6055,56		ERDS2TJ222	C.RESISTOR 1/4W 2.2K	2	
R6057		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6058		ERJ6GEYJ823	M.RESISTOR CH 1/10W 82K	1	
R6059		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6061		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6062		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6063		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6064		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6066		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R6067,68		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R6069		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R6070		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6071,72		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R6073		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6074,75		ERJ6GEYJ220	M.RESISTOR CH 1/10W 22	2	
R6076		ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R6077		ERDS2TJ683	C.RESISTOR 1/4W 68K	1	
R6078		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R6079,80		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	2	
R6081		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R6082-84		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R6085,86		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	2	
R6087		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R6088		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6089		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6090		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R6091-94		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R6095		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R6096		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
SW6001		VSS0126	SWITCH	1	<R>
X2501		VSX0086	CRYSTAL OSCILLATOR	1	<R>
X6001,02		VSX0230	CRYSTAL OSCILLATOR	2	<R>
			MISCELLANEOUS		
E21		VWJ0390	FLEXIBLE WIRE	1	
E22		VWJ0382	FLEXIBLE WIRE	1	
	■	VEP03580A	VIDEO (1) C.B.A.		
C3001		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3002		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	1	
C3003		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3004		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C3005		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3006		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3007		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C3008		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3009		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3010		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3011		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3012		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3013		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3014,15		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C3016,17		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3018		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3019		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3020		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3021		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3022		ECUM1E334ZFM	C.CAPACITOR CH 25V 0.33U	1	
C3023		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C3024		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3025		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3026		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3027		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3028		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3029		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3030		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C3031		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3032		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3033		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3034		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3035		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3036-38		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3039		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C3040		ECUM1H030DCN	C.CAPACITOR CH 50V 3P	1	
C3041		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C3042		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3043		ECEA1HKS3R3	E.CAPACITOR 50V 3.3U	1	
C3044		ECEA25Z4R7	E.CAPACITOR 25V 4.7U	1	
C3045		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	1	
C3046		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C3047		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3048-53		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	6	
C3054		ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3055		ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C3056		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3057		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3058		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3059		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C3060		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3061		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3062		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C3063-68		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	6	
C3069		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3070-74		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C3075		ECV1ZW60X64T	V.CAPACITOR 60P	1	
C3076		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3077,78		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3079		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C3081		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3082		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3083		ECQV1H224JZ	P.CAPACITOR 50V 0.22U	1	
C3084		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3085		ECQV1H154JZ	P.CAPACITOR 50V 0.15U	1	
C3086		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3087		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3088		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C3089,90		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C3091		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3092,93		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3094		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3095		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3096		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3097		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3098		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3099,00		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3101		ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C3102,03		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3104		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3105		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3106		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3107		ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3108		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C3109		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3110		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C3111		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3112		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3113		ECEA1EKN2R2	E.CAPACITOR 25V 2.2U	1	
C3114		ECQB1H562JH	P.CAPACITOR 50V 5600P	1	
C3115		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3116		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C3117		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3118		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3119		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3120		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C3121		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3122		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3123-26		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3127		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3128		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C3129		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3130		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C3131		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C3132,33		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C3134		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3135		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3136		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C3137		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3138		ECEA1CKS470	E..CAPACITOR 16V 47U	1	
C3139		ECEA1CK101	E.CAPACITOR 10V 100U	1	
C3140		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C3141		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3142		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3143		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3144		ECEA1AKN220	E.CAPACITOR 10V 22U	1	
C3145		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3146		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C3148		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3149		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3150		ECEA1CK101	E.CAPACITOR 10V 100U	1	
C3151		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3152		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3155		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3156		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3158		ECUM1H431JCN	C.CAPACITOR CH 50V 430P	1	
C3160		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3161		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C3162,63		ECEA1CKS470	E.CAPACITOR 16V 47U	2	
C3164		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3165		ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C3166		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3167		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3168		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3169		ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
D3001		MA151WK	DIODE	1	<R>
D3002		1SS283	DIODE	1	<R>
D3003		MA3091M	DIODE	1	<R>
D3004		MA151K	DIODE	1	<R>
D3010-12		MA151K	DIODE	3	<R>
D3013		MA3110M	DIODE	1	<R>
D3015		MA151K	DIODE	1	<R>
D3019		MA151K	DIODE	1	<R>
DL3001		VLD0171	DELAY	1	
DL3002		VLD0089	DELAY	1	
DL3003		VLD0125	DELAY LINE	1	
FL3001		VLF0499	FILTER	1	
FL3002		VLF0567	FILTER	1	
FL3003		VLF0299	FILTER	1	
FL3005		ELB4M022	FILTER	1	
IC3001		VEFH03D	HIC	1	<R>
IC3002		MSM6965-3RS	IC	1	<R>
IC3003		AN3495K	IC	1	<R>
IC3004		M52056GP	IC	1	<R>
IC3005		MC74HC4053F	IC	1	<R>
IC3008		MN4053BS	IC	1	<R>
IC3010		AN6308S	IC	1	<R>
IC3011		M52055FP	IC	1	<R>
L3001		VLQEL05F121J	COIL 120UH	1	
L3002		VLQEL05F470J	COIL 47UH	1	
L3003		VLQEL05F151J	COIL 150UH	1	
L3004,05		VLQEL05F101K	COIL 100UH	2	
L3006		VLQEL05F101J	COIL 100UH	1	
L3007		VLQEL05F101K	COIL 100UH	1	
L3008		VLQEL05F330J	COIL 33UH	1	
L3010		VLQEL05F101K	COIL 100UH	1	
L3011		VLQEL05F390J	COIL 39UH	1	
L3012		VLQEL05F101K	COIL 100UH	1	
L3013		VLQEL05F331J	COIL 330UH	1	
L3014,15		VLQEL05F681J	COIL 680UH	2	
L3016		VLQEL05F150J	COIL 15UH	1	
L3017		VLQEL05F470J	COIL 47UH	1	
L3018		VLQEL05F101K	COIL 100UH	1	
L3019,20		VLQEL05F150J	COIL 15UH	2	
L3021		VLQEL05F220J	COIL 22UH	1	
L3022-29		VLQEL05F101K	COIL 100UH	8	
L3030		VLQEL05F270J	COIL 27UH	1	
L3031		VLQEL05F331J	COIL 330UH	1	
L3032		VLQEL05F101K	COIL 100UH	1	
L3033		VLQEL05F151J	COIL 150UH	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
P3001,02		VJS1867	CONNECTOR(FEMALE) 17P	2	
P3003		VJP1596T	CONNECTOR(MALE) 3P	1	
P3004		VJP1245T	CONNECTOR(MALE) 5P	1	
P3005		VJP1598T	CONNECTOR(MALE) 5P	1	
P3006		VJP1244T	CONNECTOR(MALE) 4P	1	
P3007		VJS2112	CONNECTOR(FEMALE) 7P	1	
Q3001		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3002,03		2SC2295	TRANSISTOR CHIP	2	(B,C)<R>
Q3004		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3005,06		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q3007		XN1501	TRANSISTOR	1	<R>
Q3008		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3009		2SA1022	TRANSISTOR CHIP	1	(B,C)<R>
Q3010		2SD1051	TRANSISTOR	1	(Q,R,S)<R>
Q3011,12		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q3013		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3014		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3015		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3016		XN1501	TRANSISTOR	1	<R>
Q3017		2SA1022	TRANSISTOR CHIP	1	(B,C)<R>
Q3019		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3020		2SA1022	TRANSISTOR CHIP	1	(B,C)<R>
Q3021		2SD1051	TRANSISTOR	1	(Q,R,S)<R>
Q3023		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3024,25		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q3030-32		2SD601	TRANSISTOR CHIP	3	(Q,R,S)<R>
QR3001		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3002,03		UN2213	TRANSISTOR-RESISTOR	2	<R>
QR3005		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR3006		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3014		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR3015		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3016,17		UN2213	TRANSISTOR-RESISTOR	2	<R>
QR3025		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR3027		XN1213	TRANSISTOR	1	<R>
R3001		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3002		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R3003,04		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3005		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3006		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3007		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3008		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3009		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3010		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3011		ERJ6GEYJ0R00	M.RESISTOR CH 1/10W 0	1	
R3012		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3013		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3014,15		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R3016		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R3017		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3018		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3019		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3020		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3021		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3022		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3023		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R3024		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3025		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3026		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3027,28		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	2	
R3029		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3030		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3031,32		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R3033		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R3034		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3035		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3036		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3037		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3038		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3039		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3040,41		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R3042		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3043		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3044		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3045		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3046		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3047		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3048		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R3049		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3050		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3051		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3052		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3053		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3054		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3055		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3056		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3057		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3058		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3059		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3060		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3061		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3062-64		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3065		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3066		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3067		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3068		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3069		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3070		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3071		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3072		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3073		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3074,75		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R3077		ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	1	
R3078		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3079-81		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	3	
R3082		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3083		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3084		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3085		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3086		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3087		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3088		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3089		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3090		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3091		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3092		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3093		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3094		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3095		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3096		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3097		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3098		ERJ6GEYJ824	M.RESISTOR CH 1/10W 820K	1	
R3099		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3100		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3101		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3102		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3103		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3104		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3105		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3106		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3107		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3110		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3111		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3115		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3116		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3117		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3118		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3119		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3120		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3121		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3122		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3123		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3126		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3127		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3128		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3129		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3130		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R3131		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3132,33		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	2	
R3134		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3135		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
R3137,38		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	2	
R3139		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3140		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3141		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3142		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3143		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3147		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3149		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3153		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3154-57		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	4	
R3158		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3159		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3160,61		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3162		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3163		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R3164		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3165		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3166		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3167		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3168-70		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3180		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3181		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3182		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3183,84		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R3185		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3186,87		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R3189		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3190		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R3191		ERDS2TJ221	C.RESISTOR 1/4W 220	1	
SW3001		VSS0235	SWITCH	1	<R>
VR3001		EVM7NSW00B14	V.RESISTOR 10K	1	
VR3003		EVM7NSW00B14	V.RESISTOR 10K	1	
VR3004		EVM7NSW00B23	V.RESISTOR 2K	1	
VR3005		EVM7NSW00B13	V.RESISTOR 47K	1	
VR3006		EVM7NSW00B52	V.RESISTOR 500	1	
VR3007		EVM7NSW00B24	V.RESISTOR 20K	1	
VR3008		EVM7NSW00B54	V.RESISTOR 50K	1	
VR3010		EVM7NSW00B23	V.RESISTOR 2K	1	
VR3011		EVM7NSW00B24	V.RESISTOR 20K	1	
VR3013		EVM7NSW00B14	V.RESISTOR 10K	1	
VR3014		EVM7NSW00B24	V.RESISTOR 20K	1	
VR3015		EVM7NSW00B23	V.RESISTOR 2K	1	
VR3016		EVM38GA00B14	V.RESISTOR 10K	1	
X3001		VSX0225	CRYSTAL OSCILLATOR	1	<R>
X3002		VSX0188	CRISTAL OSCILLATOR	1	<R>
	■	VEP00P18A	SYSTEM CONTROL SUB		
C1		ECCV1H472JCN	C.CAPACITOR 50V 4700P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC1		MN4538BS	IC	1	<R>
P1		VJP1597T	CONNECTOR(MALE) 4P	1	
R1		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
	■	VEP03581A	VIDEO (2) C.B.A		
C3501		ECEA0JK101I	E.CAPACITOR 6.3V 100U	1	
C3502		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3503		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3504		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3505		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3506		ECEA0JKS331	E.CAPACITOR 6.3V 330U	1	
C3507		ECEA0JKA331	E.CAPACITOR 6.3V 330U	1	
C3508		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3509,10		ECEA1CKS470	E.CAPACITOR 16V 47U	2	
C3511		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3512		ECEA1CKS101	E.CAPACITOR 16V 100U	1	
C3513		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3514		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	1	
C3515		ECEA1HKSR47	E.CAPACITOR 50V 0.47U	1	
C3516		ECQP1H102GZ	P.CAPACITOR 50V 1000P	1	
C3517		ECEA1AKS221	E.CAPACITOR 10V 220U	1	
C3518		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3519		ECUM1E333KBN	C.CAPACITOR CH 25V 0.033U	1	
C3520		ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C3521		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3522		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3523		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3524		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3525,26		ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C3527		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3528		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C3529,30		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	2	
C3531		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3532		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3533		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3534		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3535		ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C3536		ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3537-39		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3540		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3542		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3543		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C3544		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C3545		ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3547		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3548		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3549		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3550		ECUM1H821JCN	C.CAPACITOR CH 50V 820P	1	
C3551		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3552-54		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3555		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C3556,57		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3560		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3562		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C3563-65		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3566		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3567		ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3568		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3569		ECUM1H681JCN	C.CAPACITOR CH 50V 680P	1	
C3571		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3572		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C3573		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3574		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3575		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3576		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3577		ECUM1H431JCN	C.CAPACITOR CH 50V 430P	1	
C3578		ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C3579,80		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3581		ECEA1HKSR47	E.CAPACITOR 50V 0.47U	1	
C3582		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3583		ECEA1CKS101	E.CAPACITOR 16V 100U	1	
C3584		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3585		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3586		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3587-90		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3591		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3592		ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3593		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3594		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C3595		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3596		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3597		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3598		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3599,00		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C3601		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3602		ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3603		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3604		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C3605		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3606		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3607		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3608		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3609		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3610		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3611		ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3612		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3613,14		ECEA0JSN470	E.CAPACITOR 6.3V 47U	2	
C3615		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C3616		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3617		ECEA1EKS3R3	E.CAPACITOR 25V 3.3U	1	
C3618		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3619		ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3620		ECUM1H390JCN	C.CAPACITOR CH 50V 39P	1	
C3621		ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3622		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3623		ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3628		ECUX1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3630,31		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
D3501		MA151K	DIODE	1	<R>
D3502		MA4033	DIODE	1	<R>
D3503-06		MA151K	DIODE	4	<R>
D3507		MA151WK	DIODE	1	<R>
D3508		1SS283	DIODE	1	<R>
D3509		MA165	DIODE	1	<R>
DL3501		ELB4Q053	FILTER	1	
DL3502		ELB4R031	FILTER	1	
DL3503		VLD0126	DELAY	1	
FL3501		VLF0639	FILTER	1	
FL3502		VLF0581	FILTER	1	
FL3503		ELB5A066	FILTER	1	
IC3501		AN6308S	IC	1	<R>
IC3502		AN6306S	IC	1	<R>
IC3503		VC2031FP	IC	1	<R>
IC3504		AN3321S	IC	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
IC3505		M52054FP	IC	1	<R>
IC3506		MC74HC4053F	IC	1	<R>
IC3507		MN4049BS	IC	1	<R>
IC3508		AN78L05A	IC	1	<R>
L3501		VLQEL05F560J	COIL 56UH	1	
L3502		VLQEL05F101K	COIL 100UH	1	
L3503		VLQEL05F6R8J	COIL 6.8UH	1	
L3504		VLQEL05F101K	COIL 100UH	1	
L3505		VLQEL05F1R0K	COIL 1UH	1	
L3506,07		VLQEL05F101K	COIL 100UH	2	
L3508		VLQEL05F181J	COIL 180UH	1	
L3510		VLQEL05F151J	COIL 150UH	1	
L3512-14		VLQEL05F101K	COIL 100UH	3	
L3515		VLQEL05F120J	COIL 12UH	1	
L3516		VLQEL05F101J	COIL 100UH	1	
L3517		VLQEL05F150J	COIL 15UH	1	
L3518		VLQEL05F101K	COIL 100UH	1	
L3519		VLQEL05F220J	COIL 22UH	1	
L3520		VLQEL05F151J	COIL 150UH	1	
L3521		VLQEL05F101K	COIL 100UH	1	
L3522		VLQEL05F100J	COIL 10UH	1	
L3523,24		VLQEL05F180J	COIL 18UH	2	
L3525		VLQEL05F100J	COIL 10UH	1	
L3526		VLQEL05F101K	COIL 100UH	1	
L3527		VLQEL05F470J	COIL 47UH	1	
L3528-30		VLQEL05F101K	COIL 100UH	3	
L3534		VLQEL05F820J	COIL 82UH	1	
P3501,02		VJP2145	CONNECTOR(MALE) 17P	2	
P3503		VJP1242T	CONNECTOR(MALE) 2P	1	
P3504		VJP1242G	CONNECTOR(MALE) 2P	1	
P3505		VJP1603T	CONNECTOR(MALE) 10P	1	
P3506		VJP1604T	CONNECTOR(MALE) 11P	1	
P3507		VJP1601T	CONNECTOR(MALE) 8P	1	
Q3501		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3502		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3503		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3504,05		XN4601	TRANSISTOR	2	<R>
Q3506-09		2SB709	TRANSISTOR CHIP	4	(Q,R,S)<R>
Q3510		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3511-13		2SD601	TRANSISTOR CHIP	3	(Q,R,S)<R>
Q3514		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3515		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3516		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3517		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3518-20		2SD601	TRANSISTOR CHIP	3	(Q,R,S)<R>
Q3521		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
Q3522-26		2SD601	TRANSISTOR CHIP	5	(Q,R,S)<R>
Q3527,28		2SC2295	TRANSISTOR CHIP	2	(B,C)<R>
Q3529		2SA1022	TRANSISTOR CHIP	1	(B,C)<R>
Q3530,31		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q3532-34		2SC2295	TRANSISTOR CHIP	3	(B,C)<R>
Q3535,36		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q3537		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q3538		2SA1022	TRANSISTOR CHIP	1	(B,C)<R>
Q3539,40		2SC2295	TRANSISTOR CHIP	2	(B,C)<R>
Q3541-44		2SB710	TRANSISTOR CHIP	4	(Q,R,S)<R>
Q3545		2SC2295	TRANSISTOR CHIP	1	(B,C)<R>
QR3501		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR3502		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3503		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR3504		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3505-07		UN2213	TRANSISTOR-RESISTOR	3	<R>
QR3508		UN2111	TRANSISTOR-RESISTOR	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
QR3509		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3510		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR3511		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR3513-15		UN2212	TRANSISTOR-RESISTOR	3	<R>
R3501		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3502		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3503,04		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3505		ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3506		ERJ6GEYG391	M.RESISTOR CH 1/10W 390	1	
R3507		ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3508		ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R3509		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3510		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3511		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3512		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3513		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3514		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3515		ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	1	
R3516		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3517		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3518		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3519		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3520		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3522		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3523		ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R3524		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3525		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3526		ERJ6GEYG221	M.RESISTOR CH 1/10W 220	1	
R3527,28		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3529		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3530		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3531-33		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3534		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R3535,36		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3537		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3538		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3539		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3540		ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3541		ERJ6GEYJ823	M.RESISTOR CH 1/10W 82K	1	
R3542		ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R3543		ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3544		ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
R3545		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3546		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3547		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3548		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3549		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3550		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3551		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3552		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3553		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3554		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3555		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3556,57		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3558		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3559		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3560		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3561		ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3562-64		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3565		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3566		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3568		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3569,70		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3571,72		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R3573		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3574		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3575,76		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	2	
R3577		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3579		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3580		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3581		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3582		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3583		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3584		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3585		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3586		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3587		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3588		ERJ6GEYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3589		ERJ6GEYG271	M.RESISTOR CH 1/10W 270	1	
R3590		ERJ6GEYG122	M.RESISTOR CH 1/10W 1.2K	1	
R3591		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3592-94		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3595		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3596		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3598		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3599		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3600		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3601		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R3602		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3603		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3604		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3605-07		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	3	
R3608		ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3609		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R3610-12		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R3613		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3614		ERJ6GEYJ823	M.RESISTOR CH 1/10W 82K	1	
R3615		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3617		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3618		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3619		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R3620		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3621		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3622		ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R3623		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3624		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3625		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3626		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3627		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3628		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3629,30		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3631		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3632		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3633		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3634		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3635		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3636		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3637		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3638		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3639,40		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R3641,42		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3643		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3644		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R3645		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3646		ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3647		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R3648		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3649		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3650		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3651		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3652		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3653		ERJ6GEYJ220	M.RESISTOR CH 1/10W 22	1	
R3654		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3655		ERJ6GEYJ220	M.RESISTOR CH 1/10W 22	1	
R3656		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	1	
R3657		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3658		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3659		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R3660		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3661		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3662		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R3663		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3664		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3665		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3666		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3667		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3669,70		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R3671,72		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R3673		ERJ6GEYJ122	M.RESISTOR CH 1/10W 12K	1	
R3674		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3675-78		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R3679		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3680		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3681,82		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R3683		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3684		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3685		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R3686		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3687-89		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	3	
R3690		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3693		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3694		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3695		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3696,97		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	2	
R3699		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R3700		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3701,02		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3702		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
TH3501		ERTD2FHL202S	THERMISTOR	1	
VR3501,02		EVM7NSW00B53	V.RESISTOR 5K	2	
VR3503,04		EVM7NSW00B54	V.RESISTOR 50K	2	
VR3505		EVMLGGA00B13	V.RESISTOR 1K	1	
VR3506		EVMLGGA00B14	V.RESISTOR 10K	1	
VR3507		EVM7NSW00B13	V.RESISTOR 47K	1	
VR3508		EVM7NSW00B23	V.RESISTOR 2K	1	
VR3509		EVM7NSW00B13	V.RESISTOR 47K	1	
VR3510,11		EVM7NSW00B52	V.RESISTOR 500	2	
VR3513,14		EVM7NSW00B14	V.RESISTOR 10K	2	
VR3515,16		EVM7NSW00B23	V.RESISTOR 2K	2	
VR3517		EVM7NSW00B13	V.RESISTOR 47K	1	
			MISCELLANEOUS		
E23		VJF0736	C.B.SUPPORT	2	
	■	VEP04244A	AUDIO & DISPLAY C.B.A.		FOR AG-7450-E/B/EP
					INCLUDING THE JACK
					UNIT (VEJ0834)
	■	VEP04244B	AUDIO & DISPLAY C.B.A.		FOR AG-7450-EG
					INCLUDING THE JACK
					UNIT (VEJ0870)
C4001		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C4002		ECQB1H333JH	P.CAPACITOR 50V 0.033U	1	
C4003		ECUM1H682KBN	C.CAPACITOR CH 50V 6800P	1	
C4004		ECQM4152JZ	P.CAPACITOR 400V 0.0015U	1	
C4005		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4007		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4008		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4009,10		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4011		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C4012		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4013		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4014		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4015		ECQB1H122JH	P.CAPACITOR 50V 1200P	1	
C4016		ECEA1AKS101	E.CAPACITOR 10V 100U	1	
C4017		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C4018		ECQV1H274JZ	P.CAPACITOR 50V 0.27U	1	
C4019		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4020		ECUM1H391KBN	C.CAPACITOR CH 50V 390P	1	
C4021		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4022		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4024		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4025		ECQB1H223JH	P.CAPACITOR 50V 0.022U	1	
C4026,27		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4028		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C4029		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4030		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4031		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4032		ECQB1H122JH	P.CAPACITOR 50V 1200P	1	
C4033		ECEA1AKS101	E.CAPACITOR 10V 100U	1	
C4034		ECEA1CKS220	E.CAPACITOR 16V 22U	1	
C4035		ECQV1H274JZ	P.CAPACITOR 50V 0.27U	1	
C4036		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C4037		ECUM1H391KBN	C.CAPACITOR CH 50V 390P	1	
C4038,39		ECKD2H151KB	C.CAPACITOR 500V 150P	2	
C4040		ECEA1AKS101	E.CAPACITOR 10V 100U	1	
C4041		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4042		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C4043		ECEA1AKS101	E.CAPACITOR 10V 100U	1	
C4044		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C4045		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4046,47		ECQV1H473JZ	P.CAPACITOR 50V 0.047U	2	
C4048,49		ECQB1H472JH	P.CAPACITOR 50V 4700P	2	
C4050		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4051		ECEA1CK101	E.CAPACITOR 10V 100U	1	
C4052		ECEA1AKA221	E.CAPACITOR 10V 220U	1	
C4053		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4054-57		ECEA1CKS100	E.CAPACITOR 16V 10U	4	
C4058		ECEA1AKS101	E.CAPACITOR 10V 100U	1	
C4059		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4060		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4061,62		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4063,64		ECEA1CKS220I	E.CAPACITOR 16V 22U	2	
C4065		ECQB1H273JH	P.CAPACITOR 50V 0.027U	1	
C4066		ECEA1CKN4R7	E.CAPACITOR 16V 4.7U	1	
C4067		ECEA1CKS330	E.CAPACITOR 16V 33U	1	
C4068,69		ECEA1HKS2R2	E.CAPACITOR 50V 2.2U	2	
C4070		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4071,72		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4073,74		ECEA1CKS220I	E.CAPACITOR 16V 22U	2	
C4075		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4076,77		ECEA1CKS220I	E.CAPACITOR 16V 22U	2	
C4301		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4302,03		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4304-06		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C4307		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C4308		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4309		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C4310		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C4311,12		ECEA1CKS220I	E.CAPACITOR 16V 22U	2	
C4313		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4314,15		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4316-18		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	3	
C4319		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C4320		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4321		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C4322,23		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C4324,25		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C4326		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C4327		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C4328		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C4329		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C4330		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C4331		ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C4332		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C4333-36		ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	4	
C4501		ECEA1AKS101	E.CAPACITOR 10V 100U	1	
C4502		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4503		ECEA1CKS4R7	E.CAPACITOR 16V 4.7U	1	
C4504		ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C4505,06		ECEA1CKS4R7	E.CAPACITOR 16V 4.7U	2	
C4507		ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C4508		ECEA1CKS4R7	E.CAPACITOR 16V 4.7U	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C4509		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4510		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C4511		ECEA1ASN220	E.CAPACITOR 10V 22U	1	
C4512		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4513		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C4514		ECEA1AKS100	E.CAPACITOR 10V 10U	1	
C4515		ECEA1EKK2R2	E.CAPACITOR 25V 2.2U	1	
C4516		ECEA0JKS101	E.CAPACITOR 6.3V 100U	1	
C4517,18		ECEA1AKS100I	E.CAPACITOR 10V 10U	2	
C4519		ECEA1EKK2R2I	E.CAPACITOR 25V 2.2U	1	
C4520		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4521		ECEA1ASN220	E.CAPACITOR 10V 22U	1	
C4522		ECEA0JSN470	E.CAPACITOR 6.3V 47U	1	
C4523		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C4524		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4525		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C4526		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4527		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4528,29		ECEA1CKS4R7	E.CAPACITOR 16V 4.7U	2	
C4530,31		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C4532		ECUM1H271KBN	C.CAPACITOR CH 50V 270P	1	
C4533		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4534		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4535		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C4536		ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C4537		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4538,39		ECEA1CKS4R7	E.CAPACITOR 16V 4.7U	2	
C4540,41		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C4542		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C4543		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4544		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C4545		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C4546		ECQV1H563JZ	P.CAPACITOR 50V 0.056U	1	
C4547-49		ECEA1CKS100	E.CAPACITOR 16V 10U	3	
C4550-54		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	5	
C4555		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C4556		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4557		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C4558,59		ECUM1H560JCN	C.CAPACITOR CH 50V 56P	2	
C4560		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4561		ECEA1AKS330	E.CAPACITOR 10V 33U	1	
C4562		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C4563,64		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C4565		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C4566-68		ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	3	
C6901		EECF5R5U104	E.CAPACITOR 5.5V 0.1F	1	
C6902,03		ECUM1H221JCN	C.CAPACITOR CH 50V 220P	2	
C6904		ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C6905,06		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C6907		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C6908		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6909		ECEA1CKS330	E.CAPACITOR 16V 33U	1	
C6910-12		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C6913,14		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C6915-17		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	3	
C6918		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C6919,20		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C6921		ECEA1AKS470	E.CAPACITOR 10V 47U	1	
C6922,23		ECEA1CKS100	E.CAPACITOR 16V 10U	2	
C6924		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C6925		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C6926		ECEA1CKS220I	E.CAPACITOR 16V 22U	1	
C6927		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C6928-30		ECEA1AKS220	E.CAPACITOR 10V 22U	3	
C6931,32		ECEA0JKS330	E.CAPACITOR 6.3V 33U	2	
C6933		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C6934		ECEA0JKS220	E.CAPACITOR 6.3V 22U	1	
C6935		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D4003		MA151K	DIODE	1	<R>
D4004		MA151WK	DIODE	1	<R>
D4005		MA3100L	DIODE	1	<R>
D4007		MA151WK	DIODE	1	<R>

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
D4008		MA3110L	DIODE	1	<R>
D4009		MA153	DIODE	1	<R>
D4301-08		HZ4CLL	DIODE	8	<R>
D4501		MA3100L	DIODE	1	<R>
D4502-04		MA151WK	DIODE	3	<R>
D6901		MA151WA	DIODE	1	<R>
D6902		MA153	DIODE	1	<R>
D6903		MA3100L	DIODE	1	<R>
D6904-06		MA151K	DIODE	3	<R>
D6907		LN0410CP3DN	DIODE	1	<R>
D6908		11EQS04	DIODE	1	<R>
FL4001,02		VLF0402	FILTER	2	
FL4501		VLF0594	FILTER	1	
FL6702		VLF0523	FILTER	1	
IC4001,02		VEFA005	FIC	2	<R>
IC4003		MN4053BS	IC	1	<R>
IC4004		AN6914S	IC	1	<R>
IC4005		NR8830	IC	1	<R>
IC4006		NJM2068MD	IC	1	<R>
IC4007		MN4538BS	IC	1	<R>
IC4008		NJM2068MD	IC	1	<R>
IC4301-04		NJM2068MD	IC	4	<R>
IC4501		AN3972FC	IC	1	<R>
IC4502		AN3932S	IC	1	<R>
IC4503		UPC1531HA	IC	1	<R>
IC6901		UPD7533GB721	IC	1	<R>
IC6902		UPD7225GB3B7	IC	1	<R>
IC6903		BA6138	IC	1	<R>
IC6904		MN4053BS	IC	1	<R>
IC6905		M5295L	IC	1	<R>
IC6906		M5278L56	IC	1	<R>
IC6907		NJM4556D	IC	1	<R>
J6702		VJJ0134	JACK	1	
L4001		VLQEL05F101K	COIL 100UH	1	
L4002,03		VLQ0123	COIL	2	
L4004		VLQEL05F221K	COIL 220UH	1	
L4005		VLQEL05F820K	COIL 82UH	1	
L4006		VLQEL05F1R0K	COIL 1UH	1	
L4301-06		VLQEL05F100K	COIL 10UH	6	
L4501-05		VLQEL05F101K	COIL 100UH	5	
L4507		VLQEL05F101K	COIL 100UH	1	
L4508,09		VLP0017	COIL	2	
LCD6901		EDD084ZH7A4P	LCD	1	<R>
P4001,02		VJP1231T	CONNECTOR(MALE) 4P	2	
P4003		VJP1597T	CONNECTOR(MALE) 4P	1	
P4004		VJP1595T	CONNECTOR(MALE) 2P	1	
P4007		VJS2326	CONNECTOR(FEMALE) 12P	1	
P4301		VJP1597T	CONNECTOR(MALE) 4P	1	
P4302		VJS2112	CONNECTOR(FEMALE) 7P	1	
P4501		VJP1244T	CONNECTOR(MALE) 4P	1	
P4503		VJS2131	CONNECTOR(FEMALE) 8P	1	
P6901		VJP1242R	CONNECTOR(MALE) 2P	1	
P6903		VJS2117	CONNECTOR(FEMALE) 12P	1	
P6904		VJP1599T	CONNECTOR(MALE) 6P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
Q4001		2SB643	TRANSISTOR	1	(Q,R,S)<R>
Q4002		2SD973A	TRANSISTOR	1	<R>
Q4003		2SD1051	TRANSISTOR	1	(Q,R,S)<!><R>
Q4004		2SB710A	TRANSISTOR	1	(Q,R)<R>
Q4005,06		2SD1149	TRANSISTOR	2	(R,S)<R>
Q4007		2SB710A	TRANSISTOR	1	(Q,R)<R>
Q4008,09		2SD1149	TRANSISTOR	2	(R,S)<R>
Q4010,11		2SD1328	TRANSISTOR CHIP	2	(R,S)<R>
Q4012		2SD602	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4013,14		2SD1328	TRANSISTOR CHIP	2	(R,S)<R>
Q4301		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4501		2SD602	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4502		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4503,04		2SD1328	TRANSISTOR CHIP	2	(R,S)<R>
Q4505		2SD1051	TRANSISTOR	1	(Q,R,S)<R>
Q4507		2SC2404	TRANSISTOR CHIP	1	(B,C)<R>
Q4508		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4509		2SB709	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4510		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4512		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q4513,14		2SD1328	TRANSISTOR CHIP	2	(R,S)<R>
Q6901		2SD639	TRANSISTOR	1	(Q,R,S)<R>
Q6902		2SD601	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q6903		2SB710	TRANSISTOR CHIP	1	(Q,R,S)<R>
Q6904-06		2SD1328	TRANSISTOR CHIP	3	(R,S)<R>
QR4002-04		UN2113	TRANSISTOR-RESISTOR	3	<R>
QR4005-07		UN2215	TRANSISTOR-RESISTOR	3	<R>
QR4008		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR4009		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR4010		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR4011,12		UN2112	TRANSISTOR-RESISTOR	2	<R>
QR4013		UN2113	TRANSISTOR-RESISTOR	1	<R>
QR4014		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR4015		UN2111	TRANSISTOR-RESISTOR	1	<R>
QR4016		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR4017-19		UN2215	TRANSISTOR-RESISTOR	3	<R>
QR4020		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR4021		UN2115	COMBINATION PARTS	1	<R>
QR4022		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR4023		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR4024		UN2113	TRANSISTOR-RESISTOR	1	<R>
QR4025		UN2215	TRANSISTOR-RESISTOR	1	<R>
QR4026,27		UN2213	TRANSISTOR-RESISTOR	2	<R>
QR4028,29		UN2215	TRANSISTOR-RESISTOR	2	<R>
QR4030		UN1112	TRANSISTOR-RESISTOR	1	<R>
QR4031,32		UN1215	TRANSISTOR-RESISTOR	2	<R>
QR4501,02		UN2212	TRANSISTOR-RESISTOR	2	<R>
QR4503		UN2113	TRANSISTOR-RESISTOR	1	<R>
QR4504,05		UN2213	TRANSISTOR-RESISTOR	2	<R>
QR4506		UN2212	TRANSISTOR-RESISTOR	1	<R>
QR4507		UN2113	TRANSISTOR-RESISTOR	1	<R>
QR4508		UN2213	TRANSISTOR-RESISTOR	1	<R>
QR6901-03		UN2213	TRANSISTOR-RESISTOR	3	<R>
R4001		ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R4002		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4003		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4004		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4005		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4006		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4007		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4008		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4009		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4010		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R4011		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4012		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4013		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R4014		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R4015		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4016		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4017		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R4018		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4019		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4020		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4021		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4022		ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R4023		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4024		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4025		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4026		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4027		ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R4028		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R4029		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4030		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R4031		ERJ6GEYJ183	M.RESISTOR CH 1/10W 180K	1	
R4032		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4033		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4034-36		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	3	
R4037		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4038		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4039		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4040		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R4041		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4042		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4043		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4044		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4045		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R4046		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4047		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4048		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4049		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4050		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R4051		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R4053,54		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4055		ERJ6GEYJ332	M.RESISTOR CH1/10W 3.3K	1	
R4056,57		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4058		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4059		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4060		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4061		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4062		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4063		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4064		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4065		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4066		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4067		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4068		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4069		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4070		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4071		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4072		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4073		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4074,75		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4076		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4077,78		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R4079		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4080,81		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4082		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R4083		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R4084		ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4085,86		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4087,88		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4089,90		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R4091		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4092		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4093		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4094		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R4095		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4096		ERJ6GEYJ124	M.RESISTOR CH 1/10W 120K	1	
R4097,98		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4099		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4100,01		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R4102		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4301		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4302		ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4308		ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
R4309		ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R4310,11		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4312		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R4313		ERJ6GEYG560	M.RESISTOR CH 1/10W 56	1	
R4315		ERJ6GEYG180	M.RESISTOR CH 1/10W 18	1	
R4316		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R4317-20		ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	4	
R4321		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4322		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R4323		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R4324		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4325		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4326		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4327		ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R4333		ERJ6GEYG471	M.RESISTOR CH 1/10W 470	1	
R4334		ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R4335,36		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4337		ERJ6GEYG560	M.RESISTOR CH 1/10W 56	1	
R4339		ERJ6GEYG180	M.RESISTOR CH 1/10W 18	1	
R4340,41		ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	2	
R4342-45		ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	4	
R4346		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4347		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R4348,49		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4350,51		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4352,53		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R4354		ERJ6GEYG473	M.RESISTOR CH 1/10W 47K	1	
R4355		ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R4356		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4357		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R4358		ERJ6GEYG101	M.RESISTOR CH 1/10W 100	1	
R4359		ERJ6GEYG473	M.RESISTOR CH 1/10W 47K	1	
R4360		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4361		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R4501		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4502-04		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	3	
R4505		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R4506		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4507		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4508		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4509		ERJ6GEYJ564	M.RESISTOR CH 1/10W 560K	1	
R4510,11		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4512		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4513		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4514		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4515		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4516		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4517		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R4518		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4519		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4520		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4521		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4522		ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R4523		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4524		ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4525		ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R4526		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4527		ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R4528		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R4529		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4530,31		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R4532		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4533		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4534		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4535		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4536,37		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R4538		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4539		ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R4540		ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	1	
R4541		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4542		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R4543-45		ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	3	
R4546,47		ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	2	
R4548		ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
R4549		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	1	
R4550		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4551,52		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	2	
R4553,54		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R4555		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4556,57		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	2	
R4558,59		ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	2	
R4560		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4561		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4562		ERJ6GEYJ153	M.RESISTOR CH 1/10W 15K	1	
R4563		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4564		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4565		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4566		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4567		ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R6901		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6902		ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R6904-06		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	3	
R6907,08		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6909		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6910-13		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	4	
R6914,15		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6916		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R6917-19		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R6920-23		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	4	
R6924		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6925,26		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6927,28		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	2	
R6929-31		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	3	
R6932		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	1	
R6933		ERJ6GEYG184	M.RESISTOR CH 1/10W 180K	1	
R6934		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R6935,36		ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	2	
R6937		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6938		ERJ6GEYJ753	M.RESISTOR CH 1/10W 75K	1	
R6939		ERJ6GEYJ694	M.RESISTOR CH 1/10W 390K	1	
R6940		ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R6941,42		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	2	
R6943,44		ERJ6GEYJ333	M.RESISTOR CH 1/10W 33K	2	
R6945		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6946		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6947		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R6948,49		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6950		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6951		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6952		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6953		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6954		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6955		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6956		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R6957		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R6958		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6959		ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R6960		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6961		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6962		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R6963-65		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	3	
R6966		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R6967		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6968		ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6969,70		ERDS2TJ391	C.RESISTOR 1/4W 390	2	
R6971,72		ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R6973-75		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R6976,77		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6978-82		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	5	
R6983		ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R6984-86		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R6987,88		ERJ6GEYJ472	M.RESISTOR CH 1/10W 4.7K	2	
R6989		ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6990		ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R6701		ERDS2TOT	C.RESISTOR 1/4W 0	1	
RY4002		VSY2036	RELAY	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
SW4001,02		VSS0126	SWITCH	2	<R>
SW4301,02		VSS0126	SWITCH	2	<R>
SW4501		VSS0126	SWITCH	1	<R>
SW6701,02		VSS0236	SWITCH	2	<R>
SW6901		VSS0277	SWITCH	1	<R>
SW6902,03		EVQQSB05G	SWITCH	2	<R>
SW6904		ESD14184	SWITCH	1	<R>
SW6905		VSS0126	SWITCH	1	<R>
T4001		VLT0588	TRANSFORMER	1	
TP4512,13		VJR0108		2	
VR4001		EVM7NSW00B14	V.RESISTOR 10K	1	
VR4002		EVM7NSW00B13	V.RESISTOR 47K	1	
VR4003		EVM7NSW00B23	V.RESISTOR 2K	1	
VR4004		EVM7NSW00B14	V.RESISTOR 10K	1	
VR4005		EVM7NSW00B13	V.RESISTOR 47K	1	
VR4006		EVM7NSW00B23	V.RESISTOR 2K	1	
VR4007,08		EVMLGGA00B54	V.RESISTOR 50K	2	
VR4009-12		VRV0080	V.RESISTOR	4	
VR4501-04		EVM7NSW00B24	V.RESISTOR 20K	4	
VR4505		EVMLGGA00B14	V.RESISTOR 10K	1	
VR4506		EVMLGGA00B53	V.RESISTOR 5K	1	
VR4507		EVM7NSW00B54	V.RESISTOR 50K	1	
VR4508		EVM7NSW00B15	V.RESISTOR 100K	1	
VR4509		EVM7NSW00B23	V.RESISTOR 2K	1	
VR6701		VRV0056	V.RESISTOR	1	
VR6901-03		EVM7NSW00B14	V.RESISTOR 10K	3	
X6901		VSX0099	CRYSTAL OSCILLATOR	1	<R>
			MISCELLANEOUS		
E24		VJF0727	LCD HOLDER	1	
E25		VHN0011	RIVET	4	
E26		VSC2899	SHIELD CASE (M)	1	
E27		VGU4010	VR KNOB	1	
E28		VMZ1426	BARRIER	1	
E29		VGU3495	SW KNOB	2	
E30		VSC2900	SHIELD CASE (L)	1	
E31		VEJ0842	JACK PANEL	1	
E32		VSC2902	SHIELD CASE (M)	1	
E33		VMZ1428	BARRIER	1	
E34		VSC2903	SHIELD CASE (L)	1	
E35		VWJ0388	FLEXIBLE WIRE	1	
E36		VKC0363	HINGE	2	
E42		VSC2924	SHIELD SEAT	1	
E43		VMZ1429	BARRIER	1	
	■	VEP05135A	HEAD AMP C.B.A.		
C5001		ECUM1C2242FN	C.CAPACITOR CH 16V 0.22U	1	
C5002		ECEA1CKS470	E.CAPACITOR 16V 47U	1	
C5003		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C5004		ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C5005-08		ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C5009		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
C5010		ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C5011		ECEA1HKS010	E.CAPACITOR 50V 1U	1	
C5012		ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C5013		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C5014,15		ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	2	
C5016		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C5018		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C5019,20		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C5021		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C5023		ECUM1H1032FN	C.CAPACITOR CH 50V 0.01U	1	
C5024		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5025		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C5027,28		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C5029		ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	1	
C5032		ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C5033		ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C5035		ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
D5001-03		MA151K	DIODE	3	<R>
D5004		MA151WK	DIODE	1	<R>
IC5001		AN3334K	IC	1	<R>
L5001		VLQEL05F101K	COIL 100UH	1	
L5002		VLQEL05F331J	COIL 330UH	1	
L5003,04		VLQEL05F101K	COIL 100UH	2	
L5006-09		VLF0365	FILTER	4	
P5001		VJS1449	CONNECTOR(FEMALE) 8P	1	
P5002		VJP1244T	CONNECTOR(MALE) 4P	1	
P5003		VJP1251T	CONNECTOR(MALE) 11P	1	
Q5001,02		2SD601	TRANSISTOR CHIP	2	(Q,R,S)<R>
Q5003,04		2SC2295	TRANSISTOR CHIP	2	(B,C)<R>
R5001		ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R5002		ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R5004		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R5005		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R5006		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R5007		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R5008		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R5009		ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R5010		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R5011		ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R5012-15		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	4	
R5016		ERDS2TJ1R0	C.RESISTOR 1/4W 1.0	1	
R5017		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R5018		ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R5019,20		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	2	
R5021		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R5022		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R5023		ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R5024,25		ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	2	
R5026,27		ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	2	
RY5001		VSY2041	RELAY	1	<R>
			MISCELLANEOUS		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
E37		VKC0362	HINGE	2	
E38		VSC2896	SHIELD CASE (T)	1	
E39		VMZ1423	BARRIER	1	
E40		VSC2897	SHIELD CASE (B)	1	
	■	VEP06535A	OPERATION C.B.A.		
D6501-04		LN28CALS	LED	4	<R>
P6501		VJP2245	CONNECTOR(MALE) 20P	1	
			RESISTORS		
R6508		ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R6509-12		ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	4	
R6513,14		ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6515		ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6516		ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
SW6501-08		EVQQSB05G	SWITCH	8	<R>
SW6509-12		VSS0236	SWITCH	4	<R>
VR6501		VRV0057	V.RESISTOR	1	
	■	VEK4304	68P CONNECTION C.B.A.		FOR AG-7450-E/B/EP
	■	VEK4586	68P CONNECTION C.B.A.		FOR AG-7450-EG
P6801		VJS2711	CONNECTOR(FEMALE) 68P	1	
P6802		VJP1597T	CONNECTOR(MALE) 4P	1	
P6803		VJP1599T	6CONNECTOR(MALE) 6P	1	
P6804		VJP1598T	CONNECTOR(MALE) 5P	1	
P6805		VJP1596T	CONNECTOR(MALE) 3P	1	
P6806		VJP1595T	CONNECTOR(MALE) 2P	1	
P6807		VJP1236T	CONNECTOR(MALE) 9P	1	
P6808		VJP1597T	CONNECTOR(MALE) 4P	1	
P6809		VJP1605T	CONNECTOR(MALE) 12P	1	
			MISCELLANEOUS		
E44		VLP0092	CORE	2	FOR AG-7450-EG
	■	VEK4303	T.C.G. C.B.A.		
P6601		VJS1409	CONNECTOR(FLMALE) 16P	1	
P6602		VJP1598T	CONNECTOR(MALE) 5P	1	
P6603		VJP1597T	CONNECTOR(MALE) 4P	1	
P6604		VJP1602T	CONNECTOR(MALE) 9P		

Ref.No.		Part No.	Part Name & Description	Pcs	Remarks
	■	VEP00B67A	FULL ERASE HEAD C.B.A.		
C1501		ECKF1H472ZF	C.CAPACITOR 50V 4700P	1	
C1502		ECEA1CKS100	E.CAPACITOR 16V 10U	1	
C1503		ECQV1H333JZ	P.CAPACITOR 50V 0.033U	1	
C1504		VCYD1C103MR1	S.CAPACITOR 16V 0.01U	1	
L1501		VLQEL05F221K	COIL 220UH	1	
P654		VJP1229T	CONNECTOR(MALE) 2P	1	
Q1503		2SC2603AE2F	TRANSISTOR	1	<R>
R1501		ERDS2TJ333	C.RESISTOR 1/4W 33K	1	
T1501		VTD0014B	TRANSFORMER	1	
	■	VEK4334	TENSION SENSOR UNIT		
			MISCELLANEOUS		
		ON1301	PHOTO SENSOR	1	